to expedite the delivery in only 16.6% of the trial group compared with 29% of the control group. The fetal condition in the epidural series was improved, with 16.1% having a pH of less than 7.25 compared with 34.3% of the controls. The improved fetal condition in the second stage was also reflected by the difference in the Apgar scores. We proposed that this improvement in the epidural series resulted from the abolition of the bearing-down reflex, which caused a reduction in maternal expulsive efforts and a consequent improvement in the uteroplacental flow.

We have been especially concerned about the well-known premature maternal expulsive efforts that occur in multigravida breech deliveries before full dilatation of the cervix. This is well illustrated in one of our eight patients who did not receive epidural analgesia (no anaesthetist available). This patient, a multigravida, started to bear down before full cervical dilatation, resulting in a traumatic delivery of the after-coming head through an incompletely dilated cervix. The baby died after 24 hours and was found to have an intracranial haemorrhage as a result of bilateral tentorial tears.

We believe that a vaginal breech delivery is best achieved with a well-relaxed and co-operative patient with good analgesia, which is superior with an epidural. In addition, we did not see the precipitous spontaneous breech delivery that can often occur in grand multiparity. In conclusion, we agree with Crawford's review and would strongly recommend epidural analgesia in the management of all vaginal breech deliveries. We have shown that breech extraction is not increased, and the fetal condition, as shown by pH in the second stage of labour and Apgar scores, is greatly improved.

A J BREESON

Poole General Hospital,
Dorset

G T KOVACS
B G PICKLES
J G HILL

Pembury Hospital,
Pembury,
Kent

¹ Eliot, B W, and Hill, J G, *British Medical Journal*, 1972, **4**, 703.

² Hill, J G, et al, *British Journal of Obstetrics and Gynaecology*, 1976, **83**, 271.

³ Bowen-Simpkins, P, and Fergusson, I L C, *British Journal of Anaesthesia*, 1974, **46**, 420.

⁴ Crawford, J S, *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1974, **81**, 867.

⁵ Darby, S, Thornton, C A, and Hunter, D J, *British Journal of Obstetrics and Gynaecology*, 1976, **83**, 35.

⁶ Breeson, A J, et al, *British Journal of Anaesthesia*, 1978, **50**, 1227.

Pain as an old friend

SIR,—Professor Desmond Curran reminds me that the title of my article "Pain as an old friend" (26 May, p 1405) was used by Dr John Penman¹ in a study of 275 patients who had been given alcohol injections for the treatment of tic douloureux. Although around 20-25% were completely pleased with the treatment, 55% at follow-up had some reservations, and severe neurotic symptoms occurred in 2%. It was, apparently, not unusual when pain was relieved for depression to set in, as though the departure of a chronic pain meant the loss of a treasured possession, leading to depression and causing the patient to emphasise the inevitable drawbacks of the treatment.

In my experience this has rarely been so in the treatment of rheumatic or arthritic disorders when pain relief has been complete—for example, after a successful uncomplicated surgical hip replacement or in the rapid relief experienced with corticosteroids in the treatment of giant-cell arteritis or polymyalgia rheumatica; but when relief has been incomplete and unpleasant symptoms of any sort have persisted or appeared after any form of therapy disappointment, resentment, and depressive symptoms may certainly appear. When relief has been complete in most cases the Old Friend departs unless there are emotional or financial reasons (or both) for his staying in residence.

F DUDLEY HART

London W1N 1AN

¹ Penman, J, *Lancet*, 1954, **1**, 633.

Extradural haematoma: effect of delayed treatment

SIR,—The paper by Dr A D Mendelow and his colleagues at the Edinburgh Royal Infirmary (12 May, p 1240) is an important contribution to the debate about the care of head injury. It underlines strikingly the dangers of delay in evacuating an intracranial haematoma once deterioration has started and stimulates a review of the methods of managing patients developing this complication.

In Britain, as in most countries where neurosurgical services are regionally organised, patients with head injuries are managed in one of three ways: (a) neurosurgeons care for all hospitalised patients, even those with trivial injuries; (b) patients are managed entirely outwith a neurosurgical unit and general or accident surgeons accept responsibility for any surgery which is necessary; (c) neurosurgeons care for a selected proportion of patients, usually those suspected of having an intracranial haematoma because of deteriorating responsiveness. In deciding the best method it is important that conclusions are drawn from an adequate basis.

The Edinburgh report is restricted to pure extradural haematomas, yet these are only a minority of acute traumatic intracranial haematomas. Their importance, both in frequency and as a cause of death and disability, is outweighed by the various kinds of intradural haematoma. The mortality rate of 5.7% in patients with a pure extradural haematoma, which was recorded just over a decade ago by Jamieson and Yelland,¹ has yet to be improved; Jamieson, however, subsequently commented² that a similar approach to management did not improve results in patients with an intradural haematoma and this lesion is much more difficult to manage.

We agree that neurosurgeons should be more closely involved in the management of more patients with head injuries than they have sometimes been in the past. The best method might ideally be for neurosurgeons to care for all hospitalised patients with head injuries, but to adopt this practice throughout Scotland would require the allocation to neurosurgeons of an extra 230 beds and supporting staff³; nationally collected statistics indicate that the Edinburgh unit itself accepts only half the head injury admissions in its region. It seems important to learn how many of the remaining patients in the Lothian

region develop a haematoma, how these are managed, and with what results. In contrast to the views expressed in the Edinburgh paper, we believe that these patients also are best treated in a neurosurgical unit because few other surgeons possess either the techniques or the desire to deal with an intradural haematoma and its complications.

The main drawback in management by secondary transfer to neurosurgical care only after the onset of deteriorating responsiveness is the risk that irreversible brain damage occurs before the haematoma can be evacuated.⁴ It now seems possible to propose a fourth method for managing patients with head injuries which might avoid this problem. Instead of waiting for deterioration, certain patients are referred for investigation by computerised axial tomography (CAT) whenever there are already other grounds for suspecting an intracranial complication—the presence of focal neurological signs; altered consciousness; and perhaps even a skull fracture. This routine was not warranted when the diagnosis of a haematoma depended on angiography (because of its difficulties and risks) or exploratory burr holes (because of their unreliability) but the safety and reliability of CAT has now made such a policy feasible. Whether all haematomas so disclosed need to be removed is uncertain but initial results in our own unit suggest that elective investigation of selected patients reduces the mortality and morbidity from all haematomas.

An extradural haematoma is the best known surgical complication of head injury, but many other factors have to be taken into consideration when deciding what is the most effective method for managing patients with head injuries.

GRAHAM TEASDALE
SAMUEL GALBRAITH

Department of Neurosurgery,
Institute of Neurological Sciences,
Southern General Hospital,
Glasgow G51 4TF

¹ Jamieson, K G, and Yelland, J D N, *Journal of Neurosurgery*, 1968, **29**, 13.

² Jamieson, K G, *Journal of Neurosurgery*, 1970, **33**, 632.

³ McMillan, R, Strang, I, and Jennett, B, *Health Bulletin*, 1979, **37**, 75.

⁴ Galbraith, S, *British Medical Journal*, 1976, **1**, 1438.

Ruptured cerebral aneurysm and brawling

SIR,—Dr Bernard Knight in his discussion of ruptured cerebral aneurysm in brawling sailors (26 May, p 1430) highlights an occasional medical, if not legal, problem in the armed services. Brawling is unfortunately common both in the armed services and in civilian life. In the 10-year period 1968-77 (representing 1.6 million man years for British Army males) there were 30 deaths associated with brawling, five of which were of the accidental type described by Dr Knight, three being from proved rupture of a cerebral aneurysm, and two from myocardial infarction found at necropsy. The total number of deaths from subarachnoid haemorrhage during this period was 34 (cerebral aneurysm was found in 24), and 12 of these cases occurred during strenuous exercise, including the three brawling cases.

When one considers the type of strenuous activity associated with subarachnoid haemorrhage, brawling tops the list. In this series, formal sport accounted for only two cases,

the others being associated with such activities as pushing or loading vehicles, carrying a friend, making love, or electrocution, all of which tend to suggest sudden severe muscular activity with raised blood pressure. In civilian practice, subarachnoid haemorrhage is frequently associated with making love. In this series, however, it would seem that soldiers spend more time making war—not love.

PETER LYNCH

Queen Elizabeth Military Hospital,
Woolwich, London SE18 6XN

Doctors and children's teeth

SIR,—As a doctor and mother of a 16-month-old child I read with interest your leading article (12 May, p 1231) on doctors and children's teeth. I have two specific queries.

Tap water in this area is not fluoridated. Is it advisable to give children fluoride tablets? The recommended dosage on the packet I bought in the local chemists suggests one 2.2 mg fluoride tablet on alternate days to the age of 2, then one tablet each day until the age of 12.

Is it advisable to use fluoridated toothpaste at an early age in conjunction with giving the tablets, or on its own if the tablets are not recommended? I note your expert suggests plain toothpaste until the child can rinse or spit without swallowing.

MARGARET A CURRAN

Hull, N Humberside

*.*With regard to the first of Dr Curran's queries, a recommended dose for sodium fluoride tablets, where the concentration of fluoride in the local water supply is less than 0.5 part per million, is 0.25 mg per day from birth, rising to 0.5 mg per day by the age of 2, then 1 mg a day until age 8—that is, until after the crowns of all the teeth except the third molars have been completed.¹ For infants and young children the tablet may be crushed and given in water or orange juice, or alternatively fluoride drops in equivalent dose may be used in a feed or bottle drink. Older children should be encouraged to suck or chew the tablets so that there is a local effect on the erupted teeth as well as a general effect on those still developing. If the 2.2 mg tablets are used, one may be dissolved in 2 litres of water to prepare a solution of 1 ppm. This can be used to make up feeds and drinks for an infant.

The problem with fluoride tablets is the danger to the child if they are swallowed accidentally in substantial numbers. This is because, if they are to be given regularly with food and drink, they may be stored in an unlocked kitchen cupboard and not in a locked drug cabinet. Another disadvantage is that the tablets may not be dispensed regularly day after day for eight years. Regular administration of small amounts is essential if protection is to be achieved. The temptation to give bumper doses to "catch up" if the tablets have not been given regularly could result in a line of enamel fluorosis. It is for this reason that fluoridation of the water supply is the best and safest method which has been devised so far for providing a supplement of fluoride where it is not already available in the natural water supply.

The effect of the systemic administration needs to be reinforced by topical application after the teeth have been erupted for some years, and the simplest way to do this is to use fluoridated tooth paste. Additional special topical applications of fluoride can be carried out by the dental surgeon at six-monthly intervals, particularly during childhood and early adolescence, when there is the greatest risk of approximal cavities developing in the teeth. The disadvantage of using fluoridated toothpaste before the child can rinse and spit without swallowing is that it is theoretically possible for the youngster to swallow an appreciable amount of additional fluoride, though it is not certain how much of this is absorbed. As with all diet supplements, enough produces the right effect and too much is likely to produce adverse effects, though with the doses mentioned the safety margin, before even minor enamel blemishes occur, is considerable.—Ed, *BMJ*.

¹ Holloway, P J, and Swallow, J N, *Child Dental Health*, 2nd edn, p 72. Bristol, John Wright and Sons Ltd, 1975.

Pressure on the tracheal mucosa from cuffed tubes

SIR,—As a physician, an officer of a company that manufactures tracheal tubes, and a member of the American National Standards Institute Z-79 subcommittee on tubes and cuffs for prolonged use, I have a deep interest in the article by Drs J M Leigh and J P Maynard (5 May, p 1173) entitled "Pressure on the tracheal mucosa from cuffed tubes."

The technique employed by Leigh and Maynard was to place the pressure sensor between the cuffs and the wall of the model trachea. While this may be an acceptable method to measure pressure exerted by air-filled cuffs it is an entirely unsatisfactory method for measuring pressure exerted by foam-filled cuffs. The pressure exerted by a foam-filled cuff is due to elastic recoil, acting much like a sponge or the cushions of modern living-room furniture. If a pressure sensor measuring 3 mm in thickness is placed between the foam-filled cuff and the tracheal wall (as was done by Leigh and Maynard) the sensor will measure the force exerted by the compressed area of foam in direct contact with the sensor. This has the effect of placing the same cuff in a model trachea whose diameter is 3 mm smaller.

Leigh and Maynard could have obtained realistic pressure measurements for foam-filled cuffs by placing the sensor so that the innermost surface of the sensor was flush with the inner wall of the model trachea. Had this been done the pressure readings for foam-filled cuffs would have been well below 20 mm Hg. The effects of mechanical ventilation on tracheal volume and tone and the corresponding cuff adjustments that become necessary to maintain no-leak ventilation and aspiration protection cannot be evaluated in a rigid-model trachea. Periodic in-vivo measurement of cuff volume remains the only way to clinically recognise tracheal dilatation. And initial cuff volume measurement is the only way to ensure that the appropriate cuff size is in a given trachea.

S W SHAPIRO

Bivona Surgical Instruments Inc,
Hammond, Indiana

SIR,—Dr W G Notcutt (9 June, p 1566) asks for information concerning the use of the Lanz endotracheal tube. We are currently conducting a clinical investigation in patients undergoing cardiac surgery of the effects on the trachea of the Lanz and the Portex Blue Line tube.

Briefly, we have so far studied 22 patients who were electively ventilated via an endotracheal tube for some 24 hours postoperatively. At the time of surgery patients were intubated with either a Lanz or a Portex tube (selected on a random basis). The seal point of the cuff was determined by the anaesthetist concerned, and no special effort was made to standardise the procedure. On extubation the trachea was examined with a fiberoptic bronchoscope by the method of Matthias and Wedley.¹ This assigns a score from 0 to 9 which takes into account the amount of tracheal damage, quantified by the degree of oedema, ulceration, and haemorrhage present. Photographs of the trachea were taken at the same time, and these were later scored by an independent observer. The mean tracheal damage scores for the 11 patients with the Lanz tube assigned by both the bronchoscopist and the independent assessor are lower than those for the 11 with the Portex tube, and this difference was significant when the results were analysed by Wilcoxon's rank sum test ($P < 0.05$).

Our preliminary results support the experimental findings of Drs J M Leigh and J P Maynard (5 May, p 1173) and suggest that the Lanz type tube may have some advantages in the patient where long-term endotracheal intubation is undertaken. For those not familiar with high-volume cuffed endotracheal tubes, we would point out that the introduction of the Lanz endotracheal tube into the trachea may not be straightforward and an introducer should be at hand.

Our investigation is continuing and we intend to extend the study to include the Portex Profile tube.

C BARHAM
LEO STRUNIN

Anaesthetic Department

D HONEYBOURNE
J COSTELLO

Chest Unit,
King's College Hospital,
London SE5 9RS

¹ Matthias, D B, and Wedley, J R, *Anaesthesia*, 1974, 46, 849.

Thalidomide and the "Lancet"

SIR,—I deeply regret that I risked spoiling what was intended to be a serious review of an emotionally and intellectually stimulating book (9 June, p 1553) by including an unnecessary and, as it turns out, erroneous statement about decisions made by the *Lancet* in 1961. I can offer no excuse for wrongly stating that Dr W G McBride's letter of 16 December 1961 appeared, not in the *Lancet*, but in the *BMJ*. On the other hand, I might perhaps be partly forgiven for not questioning the statement in the book to the effect that the *Lancet* decided not to publish an earlier paper by McBride (see p 88 of the book). If this statement is true, it is of sufficient historical interest for it to be recorded, although, without precise knowledge of the contents of the allegedly rejected paper, one should certainly not assume that the decision to reject it