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.

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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.

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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.

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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,