legal medicine at Harvard Medical School: "The report would, if adopted in full, relegate Britain's already meagre programmes in forensic pathology to even less significance."² While the author of this letter, admittedly without the advantage of being able to form an objective opinion under such remote and dissociated circumstances, greeted the report with the words: "What has emerged is nothing less than a disaster for legal medicine in this country."³—I am, etc.,

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¹ Home Office. *Report of the Committee on Death Certification and Coroners*, Cmd. 4810. London, H.M.S.O., 1971.

² Curran, W. J., personal communication, 12 April 1972.

³ Havard, J. D. J., *Medicine, Science and the Law*, 1972, 12, 5.

Danger of Oxytocin Infusion to the Fetus

SIR,—Now that oxytocin infusions are so widely used in labour wards it is necessary to keep in mind the risks to the fetus from uterine hypersensitivity. We have had recent experience of a danger that may not be generally known.

In cases of unstable presentation it has become common practice to start the drip some time before rupturing the membranes, d laying the latter until the uterus is contracting. It is well known that the uterus is relatively unresponsive to oxytocin when the membranes are intact but that it becomes much more sensitive when the liquor has gone.

Unless the drip is slowed right down before the membranes are ruptured in these cases a hypotonic uterus may pass into tetanic contraction in a very short space of time and this can kill the fetus. The risk may be even greater in cases of hydramnios. —I am, etc.,

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Jaundice after Halothane

SIR,—Professor J. S. Robinson and his colleagues (16 March, p. 515) make the pertinent point that once halothane has been used in an operating area it is highly likely that subsequent patients will be exposed to it. The concept that components of an anaesthetic machine retain measurable concentrations of halothane and other inhalational agents is by no means new.^{1,4} Furthermore, reports of atmospheric pollution^{5,6} indicate that almost all patients will therefore be exposed to low concentrations of halothane even if a "halothane-free" machine is used. Indeed, this approach has been used to explain a case report of "halothane hepatitis" in which a patient developed hepatic dysfunction following halothane and subsequently developed further dysfunction following exposure to diethyl ether in an operating theatre in which "halothane had been recently used".⁷

On the other hand we have had reported to us, as supporting evidence for "halothane hepatitis", a considerable number of patients who had liver dysfunction following anaesthesia including halothane and who did

not suffer further dysfunction after a "non-halothane" anaesthetic, without special precautions having been taken to preclude contamination with halothane. Either argument may be tenable in isolation, but you cannot have it both ways. The alternative view, therefore, would be that the liver damage in these latter cases was not directly related to the anaesthetic agent used and that halothane was not involved.

Professor J. G. Robson and Dr. J. Norman (16 March, p. 516) analyse data from a paper by Mushin, Rosen, and Jones⁹ and conclude that the incidence of hepatic necrosis following two non-halothane anaesthetics administered within 28 days was 1 in 2,594 compared with an incidence of 1 in 6,000 following two halothane exposures within the same period. In fact, Professor Robson and Dr. Norman were misled by a misquotation by Mushin, Rosen, and Jones⁹ of a previous report by Mushin, Rosen, Bowen, and Campbell.¹⁰ The more recent paper⁹ stated that "one case, already reported (Mushin *et al.*, 1964), died after two non-halothane anaesthetics," and the calculation by Professor Robson and Mr. Norman was based on that reference. However, scrutiny of the earlier paper¹⁰ reveals that the patient to whom they referred died after two anaesthetics, the first of which apparently included halothane. Calculations based on the two papers by Mushin *et al.* show the incidence of hepatic necrosis among patients receiving a halothane anaesthetic followed by a non-halothane anaesthetic within 28 days to be 1 in 1,816 (30% of 123,516 patients received a non-halothane anaesthetic=37,055; of these, 7% had a previous anaesthetic within one month=2,594; of these, 70% would have had halothane for their previous anaesthetic=1,816).

We support the view of Professor Robson and Dr. Norman that Dr. W. H. W. Inman and Professor Mushin (5 January, p. 5) may be right in their hypothesis that multiple exposure to halothane carries a greater relative risk than single exposure. The evidence reported to date, however, does not support this contention. We also agree that "there is no statistical sense" in any of the analyses carried out on the data supplied by Mushin *et al.*^{9,10} It would, indeed, be naive to indulge in such analysis, except that the recent letter by the medical assessor of the Committee on Safety of Medicines, if unchallenged, would "change current clinical anaesthetic practice" to the extent that halothane would not be used more than once for patients requiring repeated anaesthesia—the very situation demonstrated above on the evidence of Mushin *et al.* to produce a threefold increase in mortality from unexplained hepatic necrosis as compared with the repeated use of halothane. We respectfully suggest that the circular letter from the Committee on Safety of Medicines based on further analysis of equally inadequate data¹¹ was, to say the least, premature.—We are, etc.,

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¹ Galloon, S., *British Journal of Anaesthesia*, 1960, 32, 310.

² Eger, E. I., Larson, C. P., and Severinghaus, J. W., *Anesthesiology*, 1962, 23, 356.

³ Lowe, H. J., Titel, J. H., and Hagler, K. J., *Anesthesiology*, 1971, 34, 283.

⁴ Mapleson, W. W., *British Journal of Anaesthesia*, 1957, 29, 3.

⁵ Linde, H. W., and Bruce, D. L., *Anesthesiology*, 1969, 30, 363.

⁶ Whitcher, C. E., Cohen, E. N., and Trudell, J. R., *Anesthesiology*, 1971, 35, 348.

⁷ Ekin, F. H., Pierce, T. H., and Gatenby, P. B., *Journal of the Irish Medical Association*, 1971, 64, 380.

⁸ Walton, B., *et al.* In preparation.

⁹ Mushin, W. W., Rosen, M., and Jones, E. V., *British Medical Journal*, 1971, 3, 18.

¹⁰ Mushin, W. W., Rosen, M., Bowen, D. J., and Campbell, H., *British Medical Journal*, 1964, 2, 329.

¹¹ Simpson, B. R., Strunin, L., and Walton, B., *British Medical Journal*, 1974, 1, 288.

Coping with Nose-bleeds

SIR,—I would take issue with several statements in your leading article on epistaxis (9 March, p. 405). An earlier leading article on the same subject (14 April 1962, p. 1065) was much more accurate in my view.

While I agree that epistaxis in childhood and adolescence is common, I do not agree that there is an increased frequency in summer. In 14 years of mixed general practice I found the incidence in this group to be higher in winter.

The suggestion that the reasons for Little's area being a frequent source of bleeding are "still unknown" has been answered by McKelvie,¹ who points out that this area is "high and forward" and is thus subject to trauma by "picking, drying and crusting." In addition, the vessels of this anastomotic area are known to be superficial. In the control of bleeding by pinching the nostrils, as suggested by Trotter half a century ago, surely the patient should be propped up with the head bowed and not recumbent and supine.²

Does anyone accept today that epistaxis is a safety valve? This idea may be reassuring to the patient as an explanation of his symptoms but is not based on fact.² Further, while I realize the medicolegal problems arising from carelessly applied chemical caustic solutions, I would suggest that this method used with due care (for example, a silver nitrate "bead" applied to the bleeding area under local anaesthetic after smearing petroleum jelly on the skin around the affected nostril and on the upper lip) is much less frightening to adults as well as children than the galvanocautery, which can be reserved for cases which fail to respond to chemical cauterization.

I question the necessity for a general anaesthetic for postnasal space packing and would suggest that if postnasal space bleeding is obviously unilateral it is necessary only to pass a catheter on the affected side, fixing the tape of the packing to the cheek in the same way as in the use of a Simpson balloon or Foley catheter. Finally, in the approach to anterior ethmoidal artery ligation, the incision should surely avoid the inner canthus.—I am, etc.,

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¹ McKelvie, P., *British Journal of Hospital Medicine*, 1972, 8, 339.

² Dewar, H. A., *British Medical Journal*, 1959, 1, 169.

SIR,—While I agree that "epistaxis is a common problem" (leading article, 9 March, p. 405) the vast majority of my patients with severe nose-bleeds are middle-aged or elderly, usually with varying degrees of cardiovascular or respiratory disease. Epistaxis in these patients occurs much more frequently during the winter months and it may be that respiratory infections contribute