halothane jaundice." As we stated in our introduction, we set out to determine on the basis of the hypothesis, derived from clinical reports, that multiple halothane anaesthetics are a factor in the development of jaundice, whether a time interval between the anaesthetics could be defined in which this danger particularly exists. In this, we feel we have succeeded in at least reducing the uncertainty.

Our survey of the general surgical population exposed the incidence of and the time intervals between multiple anaesthetics, which until then were almost unknown. We then compared this information with that which we obtained from the Committee on Safety of Drugs of patients who developed jaundice after halothane and had been reported to them, and also of patients reported in the literature. There was a striking and important difference between the general surgical population and the reported cases when the intervals were up to one month. We also showed from other data that the chance of an anaesthetist meeting a case of jaundice after halothane was very small indeed.

We said that this complication (for example post-halothane jaundice) could be avoided if halothane were stopped altogether. However, we also emphasized the rarity of the condition and the fact that this solution would be unacceptable to the majority of anaesthetists. It was because this was so that we set out to define the risk—but not the cause. Our conclusion at least supplies some guidance and comfort for clinicians like ourselves who until now were uncertain what practical measures could be taken until the real cause of jaundice after halothane anaesthesia is finally tracked down. Until then we must stand by the final paragraph of our conclusions which, incidentally, includes a similar opinion to the one expressed by Dykes (quoted by Professor Simpson).

We said " . . . in spite of the rarity of jaundice, it is reasonable to avoid halothane when it has been administered to the same patient during the previous four weeks. However, this advice assumes that there is an equally effective and safe alternative with which the anaesthetist is familiar. Otherwise, it might mean that by avoiding a rare cause of morbidity and mortality a more common one is introduced."—We are, etc.,

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Halogen Anaesthetics

SIR,—I am too old and have been retired too long to be able to make any useful suggestions about the treatment or prevention of halothane jaundice, but I could, if permitted, make some observations on its possible aetiology.

Over half a century ago we had a similar problem in delayed chloroform poisoning, a similar deadly liver lesion, and this, with other factors such as the frights we got from the dreadful falls in blood pressure when giving ethyl chloride, made many of us feel that the halogen anaesthetics were a bad lot. Indeed, when this latest one with fluorine came in I remember remarking that I should be surprised if sooner or later trouble with it were not experienced. We moved on to the safest of all general anaesthetics: ether and the hydrocarbons, cyclopropane, etc.

What pushed us off? I am afraid we must blame our surgical colleagues for this. They found that they could cope with their congested lists much quicker if they touched a Spencer Wells with the diathermy needle than if they tied the vessel off. Other factors that occur to me are: The techniques of regional blocks gave beautiful results in many cases but one must admit they were time consuming, and those hospitals that justifiably claimed excellent results from spinal anaesthesia were quite rightly frightened off by the awful, if remote, risk of arachnoiditis. —I am, etc.,

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Ketamine Anaesthesia

SIR,—We were very interested to read the comments by Professor J. W. Dundee and Dr. J. Moore (3 July, p. 46).

Our investigations were performed on patients anaesthetized with ketamine using dosages recommended by the manufacturers and preceded by their suggested antisialogogue premedication. The total dosage of ketamine averaged 0·19 mg/kg/min., which is similar to that used by other workers.[1 2] We performed our tests at the termination of surgery whereas Professor Dundee and Dr. Moore tested their patients as soon as anaesthesia had been stabilized.

The timing and the nature of the laryngeal challenge are possibly two factors which may influence the likelihood of aspiration. This, together with the effect of varying the premedication, will require further investigation.—We are, etc.,

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1 Corssen, G., and Domino, E. F., *Anaesthesia and Analgesia . . . Current Researches*, 1966, **45**, 29.
2 Stanley, V., Hunt, J., Willis, K. W., and Stephen, C. R., *Anesthesia and Analgesia . . . Current Researches*, 1968, **47**, 760.

Accident and Emergency Services

SIR,—Publicity has been given recently in the national press and the *B.M.J.* to changes in the staffing of accident and emergency (casualty) departments. It is proposed that a career structure should be created and pilot training schemes are to be instituted. In the discussion which led to these decisions the Orthopaedic Group of the British Medical Association and the British Orthopaedic Association, whose consultant members are responsible for the management of over 80% of the casualty departments in the country, were not given an adequate opportunity to present their views or put forward their plans to improve the staffing situation in the accident and emergency departments.

For many years the British Orthopaedic Association has been concerned about the deficiencies of the accident services, and in December 1969 an accident services subcommittee of the executive was formed. A preliminary survey of the staffing of 125 departments throughout the country was carried out at Exeter on behalf of the British Orthopaedic Association, and a copy of the report has been forwarded to the Department of Health.

At the Belfast meeting of the British Orthopaedic Association in April this survey was presented, together with a report from the accident services subcommittee of the association, and the following recommendations were made.

(1) In view of the crisis of staffing the concentration of accident and emergency units by the closing of small uneconomic units should be speeded up. Many departments are still grossly inadequate in size, and the Department of Health must accelerate their programme of building new departments.

(2) The appointment of selected "casualty officers" as consultants in the accident and emergency departments should be undertaken with caution. There are some doctors with higher surgical qualifications who are skilled in casualty work, but the British Orthopaedic Association is certain that there are insufficient numbers of such men to man the casualty services, and does not consider it necessary for them to have consultant status. It emphasizes again the need for good doctors in the casualty departments and not highly trained surgeons. When such men are available the British Orthopaedic Association agrees that they should be employed, but that the path of training should be for "good doctors" rather than "casualty surgeons."

(3) There should be one experienced doctor on duty in the accident and emergency departments during the whole 24 hours each day of the week. Four such doctors will be required in each department to work a rota allowing time for sickness, holidays, study leave, etc. These doctors would be experienced in handling all forms of casualty work, and it would be essential to establish for them a permanent career grade which should be made financially competitive with ordinary general practice. Their experience should be gained in accident and emergency departments in the course of a year or two, and special courses would be arranged by regional hospital boards to assist their training. Provided that such a doctor was on duty in the department then the other medical staff in the department could be senior house officers or even preregistration house officers. These should be regarded as training grades.

(4) There should be a consultant in charge of the whole accident service, including inpatient beds and outpatient clincs, a function already largely taken on by orthopaedic surgeons. The consultant should be responsible for the organization and supervision of the work of the department, and he should be enabled to spend adequate time in the accident and emergency department. Time for work in the department should therefore be included in the sessions in his contract.

(5) The pattern of manning departments will vary throughout the country, and it is important that a rigid plan is not imposed, and that some flexibility is permitted.—We are, etc.,

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