

the Service by taking a larger share of the N.H.S. cake.

I hear also that critics in the royal colleges have suggested that it is necessary for juniors to work every other night in order to get adequate training. I know that they cannot have done their homework; many juniors in recognized training posts have been working one night on in three for years; are they now to be on duty more often? The colleges have stated that the length of training may have to be increased; this will affect few juniors, most of whom stay much longer than the minimum time in the training grades because of poor career opportunities.

The D.H.S.S. had the opportunity to plead poverty at the time of the 1973 review, but this does not seem to have impressed Lord Halsbury when he made the award. Recently I have heard talk of the proposed changes not being implemented. The consequences of that do not bear consideration.—I am, etc.,

D. E. F. NEWTON

Wideopen,
Northumberland

Jaundice after Halothane

SIR,—We would like to support in general terms the various letters which urge caution in interpreting the findings reported by Dr. W. H. W. Inman and Professor W. W. Mushin (5 January, p. 5) though appreciating that "reporting faults" were due to anaesthetists themselves. However, the unusual action of the Committee on Safety of Medicines in circulating anaesthetists drawing attention to the one published article could easily be taken as giving official backing to the views expressed by the authors. We note that the committee stated in their letter that "jaundice may . . . follow the administration of halothane" and that "repeated exposure within a period of a few weeks may carry a greater risk" (our italics). Like many other groups of anaesthetists we know of cases of jaundice following anaesthesia and are aware of the possible effects of the agents.

It will be appreciated that halothane has been more extensively studied, both in the laboratory and in the clinical situation, than any other agent. Over the years it has proved to be one of the safest anaesthetic agents available. It is our opinion that halothane should still be used when it is considered the agent of choice in a particular instance and that, in these circumstances, even repeated administrations are fully justified in comparison with the disadvantages and risks of alternative techniques. In each individual case the overall benefit to patient and surgeon must be assessed in this light, and while appreciating the need for caution, in appropriate circumstances in our division we shall continue to use and teach the use of halothane when, in the opinion of the anaesthetist, it is the agent of choice.—We are, etc.,

JOHN DUNDEE
Chairman,

R. C. GRAY
Vice-Chairman,
Anaesthetic Division

Royal Victoria Hospital,
Belfast

Assessing the Safety of Comatose and Postanaesthetic Patients

SIR,—Following head injury, poisoning, general anaesthesia, and other causes of coma patients are at risk from respiratory obstruction or depression. Assessment of the patient's safety is essential, and for this a test is required which will determine whether the patient is able to make the proper response to the likely hazards. Experience with patients recovering from anaesthesia has proved instructive and suggests that some methods in use are inappropriate and may be misleading.

Recovery is usually well understood where anaesthesia has been maintained with an inhalation agent or by means of an intravenous agent such as a barbiturate. The patient progresses steadily from unconsciousness to a point where the anaesthetist or recovery nurse is satisfied that it is safe for the patient to return to the ward. Since the patient becomes progressively safer as time passes, the decision that recovery has occurred is not a critical one and current methods of assessment are satisfactory.

In contrast, the patient emerging from anaesthesia based on intravenous analgesics such as pethidine, together with a muscle relaxant, commonly responds and speaks in the operating theatre shortly after the conclusion of surgery. There is a natural tendency to regard such a patient as "recovered" and some of the commonly used methods of assessment may appear to confirm this. This is because they involve the application of a stimulus, either auditory or painful, which will in itself arouse the patient to a lighter, and hence safer, level of consciousness. However, the patient is in more danger when left undisturbed, so that any test relying on the application of a stimulus cannot be entirely valid.

The likely dangers are respiratory depression and respiratory obstruction, and the patient's ability to meet these hazards with the proper response may be assessed as follows. Instead of being stimulated the patient remains undisturbed for a few minutes and is allowed to breathe spontaneously with the head in a normal position. Gradually increasing downward pressure is then applied to the point of the chin. This will tend to flex the neck and depress the jaw towards the manubrium and is, in effect, the very reverse of the familiar manoeuvre employed to open the upper airway in an unconscious patient. Recovery is deemed to have taken place when the patient has reached that level of consciousness, and has the strength and co-ordination, necessary to overcome the airway obstruction produced by the depression of the jaw. Until the patient can respond in this way he should remain under close supervision.

We arrived at the technique independently after similar experiences. Four patients were encountered, each of whom awoke in the theatre after general anaesthesia for abdominal surgery. These patients had recovered sufficiently to obey commands and to speak spontaneously and coherently. However, all subsequently developed respiratory arrest, progressing in two cases to cardiac arrest. Fortunately, all were successfully resuscitated. In each case it had been assumed that the patient had "recovered" because of his ability to speak and

obey instructions. Had these cases been assessed as described above the frightening and potentially fatal episodes could almost certainly have been avoided. Subsequent experience has supported this view; cases have occurred where, after apparent recovery, respiratory obstruction or depression has ensued in undisturbed patients or in those subjected to our chin-depression test.

Though the method was developed for use after anaesthesia and, in particular, after the intravenous - analgesic/muscle - relaxant technique, it has proved equally suitable for the assessment of any comatose patient. Moreover, it provides a most instructive demonstration of the particular risks to which such a patient is exposed. A nurse witnessing this test tends to appreciate the importance of her care of the patient much more than if she merely sees him respond to a stimulus.

Though similar methods must be in use, we have not seen them reported, and discussion with colleagues indicates that their application is extremely limited. The technique described has proved useful to us and may be of interest to others.—We are, etc.,

A. W. GROGONO
A. R. DEC. DEACOCK

Department of Anaesthesia,
Royal Free Hospital,
London N.W.3

The Kidney in Infective Endocarditis

SIR,—I was taught many years ago and still believe that the characteristic renal lesion in bacterial endocarditis is focal *embolic* nephritis. The largest fragments detached from cardiac vegetations cause gross infarction; the smallest obstruct vessels supplying or within individual glomeruli, which then eventually fibrose. The effect of this process can be seriously to impair renal function, without the co-existence of any other kind of nephritis. Hence my perplexity on reading the paper by Dr. J. M. Boulton-Jones and others (6 April, p. 11) entitled "Renal Lesions of Subacute Infective Endocarditis," in which lesions of this well-recognized type are not mentioned and the word "embolism" is never used.

These authors' investigations and their arguments in favour of a different aetiology in their five cases are beyond my understanding, so that I am in no position to contest their conclusion. I am aware that a diffuse glomerulonephritis can also occur in this disease, but is it not possible that some of the glomerular lesions described resulted from micro-embolization, and if so should not this possibility at least be admitted? In none of the case histories is there any reference to Osler's nodes, splinter haemorrhages, or the findings of retinoscopy. If any such lesions existed they must have had their counterpart in the kidney. Unless in the absence of all such signs, how can it be convincingly claimed that the renal lesions observed were of a wholly different nature?—I am, etc.,

LAWRENCE P. GARROD

Wokingham, Berks

Pre-eclampsia and the Kidney

SIR,—I have read with interest the evidence presented by Dr. O. M. Petrucco and others (16 March, p. 473) suggesting that im-