search Council was quoted as the authority. I accordingly wrote to the M.R.C. and received in return a copy of their booklet "Responsibility in Investigations on Human Subjects," reprinted from their report for 1962-3.[1] In this I found little for my comfort. The pertinent sentence is: "In the strict view of the law parents and guardians of minors cannot give consent on their behalf to any procedures which are of no particular benefit to them and which may carry some risk of harm." The M.R.C. have kindly obtained a further opinion from their legal advisers, who confirm that the general position has not changed since the statement was originally published in 1964. I believe that this ruling has shortcomings when applied to a particular situation such as my proposed study. Further, it contravenes the principle that all human beings have an obligation to the society which nurtures them and that this obligation is incurred the moment we are born and not just when the age of majority is reached.

I have completed a small attitude study to test lay and professional opinion about this problem. The following form was compiled:

This is a problem of medical ethics and your comments would be welcomed.

An infant dies suddenly at home of a mysterious disorder. A doctor doing research into the disorder wishes to take two samples of blood from each near relative—mother, father, brothers, and sisters. The procedure is much the same as taking a sample of blood from a mother at her first antenatal attendance.

The taking of blood from the brothers and sisters of the dead infant cannot benefit them personally but may benefit research into the cause of the baby's death.

Some persons believe that a doctor in such circumstances should not take blood from children even if the parents agree.

Others think that the parents have the right to decide and that, with their permission, the doctor may take blood.

Which opinion do you hold? Please ring the reply which most closely matches your opinion.

A. That the doctor may take blood from the children.

B. That he may not take blood from the children.

C. Uncertain.

This form was presented by myself without comment to 10 doctors (two house surgeons; a pathologist; a physician; a geriatrician; an epidemiologist; a surgeon; and three general practitioners) and all but one (a general practitioner) ringed choice A. A professional market researcher also showed the form to 10 lay persons in the course of her other duties (three male manual workers; two male non-manual workers; one female manual worker; and four female non-manual workers). All ringed choice A. By a coincidence the woman manual worker had lost an infant suddenly and unexpectedly and she was emphatic in her choice of alternative A.

It would seem therefore, that public opinion and the law are at variance, and this must always be a cause for concern. While the position remains unchanged legitimate research in this country may be hampered. In the case of my own proposed study I feel justified in proceeding. Familial aggregation exists in S.U.D.I. and it could be argued that the study might benefit eventually the sibling subjects in a manner which cannot be closely defined at this moment. The unlikelihood of this is balanced by the gravity of the issue.—I am, etc.,

ALAN PORTER

Camberley, Surrey

1 Medical Research Council, *Report for the Year 1962-1963*, p. 21, London, H.M.S.O., 1964.

Treatment of Status Asthmaticus

SIR,—Your leading article (9 December, p. 563) gives a valuable account of the treatment of this common and potentially lethal medical emergency. I disagree, however, with your statement that physiotherapy has no place in the treatment of this condition. There are, admittedly, some patients who are too ill and exhausted to co-operate in this treatment and these frequently require assisted ventilation soon after admission to hospital. Nevertheless, physiotherapy—that is to say, frequent assisted coughing with vibratory percussion to the lung bases rather than postural drainage—can, in my experience and that of others,[1] be given with much benefit to many patients in status asthmaticus, even to those with hypercapnia. Indeed, hypercapnia is invariably associated with the retention of large amounts of viscid bronchial secretion, and when this is coughed up the raised arterial carbon dioxide tension falls, hypoxaemia improves, and the need for assisted ventilation is often averted.

The bronchial secretion is characteristically highly viscid in severe asthma. Bromhexine reduces sputum viscosity[2] and I always give this parenterally or by mouth in addition to physiotherapy.—I am, etc.,

K. N. V. PALMER

Department of Medicine,
University of Aberdeen

1 Rebuck, A. S., and Read, J., *American Journal of Medicine*, 1971, **51**, 788.
2 Hamilton, W. F. D., Palmer, K. N. V., and Gent, M., *British Medical Journal*, 1970, **3**, 260.

SIR,—Your excellent leading article on status asthmaticus (9 December, p. 563) is one of a spate that have appeared in various journals recently. There are three points of general interest, however, that have not been made enough of:

(1) Status asthmaticus is almost invariably overtreated in hospital. Visit any ward you fancy and you will find the treatment sheet, after a couple of days, crammed back and front, plus a handful of continuation sheets, with drugs prescribed, countermanded, replaced, substituted, reinstituted, added to, as well as overlooked. Beneath this lies the drugged, sedated, and tranquillized remnants of the patient. Since modern medical treatment is a team matter, the team being a shifting population of clinicians of various ages whose on-duty and off-duty rotas are continually in flux, the team must at the outset decide collectively on a regime and agree to make no modification of it without reference to the team leader.

(2) The complaint of asthma and its "status" variant is a very individual affair, and chronic asthmatics of several years' standing often know more about their asthma, and the drugs that help them as individuals, than some clinicians. They arrive in hospital with their drugs, which they have learnt from experience to regard as sheet anchors, and it is a mistake to deny possession of them unceremoniously as is sometimes done. A close watch can easily be maintained on them and, if necessary, their use temporarily discouraged with tact on the grounds that it conflicts with the hospital regimen. This may avoid forfeiting the confidence of an often highly intelligent patient at a time of severe anxiety and alarm.

(3) Sedation, in the preintubation phase while respiration is spontaneous, is not necessarily to be denigrated "because of the depressant action of all hypnotics on respiration." Some have a less depressant effect on respiration than others and are not only reasonable risks, but an essential part of treatment. Asthmatics often have a wide knowledge of which are suitable and why some are not. Once the PaO_2 falls below the critical level of 50 mm Hg and intubation is obligatory the matter of sedation becomes much simpler and less controversial.—I am, etc.,

H. G. MCGREGOR

Hove, Sussex

SIR,—I would like to make three comments on your leading article (9 December, p. 563).

(1) You do not emphasize the *severity* of dehydration that may be present. Patients may be 1-3 l. in deficit. Replacement should be rapid and controlled by central venous pressure measurements. Hypovolaemic patients withstand positive pressure breathing very badly, and fluid replacement is particularly urgent when cardiac output drops in response to mechanical ventilation. Replacement should be with normal saline, since most of the loss has been as sweat. Inadequate sodium replacement produces a hypotonic plasma which in turn can produce a fatal cerebral oedema.

(2) Formal bronchial lavage may be hazardous. Frequent endotracheal installations of saline followed by suction will clear mucous plugs as effectively as bronchoscopic lavage and is to be preferred. Adequate moistening of the inspissated bronchial secretions is an essential part of active treatment.

(3) Patients in status asthmaticus are liable to considerable variations in compliance. If resistance to inflation increases, a powerful volume-cycled ventilator may rupture mediastinal alveoli unless the machine has a properly working and properly adjusted blow-off valve. Machines less powerful but with a controllable inflation rate may sometimes give better ventilation. A pressure-cycled machine may also rupture by overinflation if an increase in compliance is not matched by a downward adjustment of the inflation pressure. Choosing and adjusting ventilators for asthmatics can be more difficult and time-consuming than your short statement suggests.—I am, etc.,

MERLIN MARSHALL

Newcastle General Hospital,
Newcastle upon Tyne

SIR,—I would like to make two points in relation to your most excellent leading article (9 December, p. 563).

Advising massive dosage of corticosteroids, you state that "it may be several hours before the airways obstruction begins to subside." This can be a crucial or even fatal period. As an anaesthetist, one is aware of the value of that much-despised drug, ether, in relation to asthmatic patients. Status asthmaticus, whatever the cause, is characterized by extreme constriction of the bron-