evacuation flights. Patients with severe injuries have to be transferred between aircraft and road ambulances and the mattress provides very secure immobilisation. We have used it on both conscious and unconscious patients and find it particularly useful in the unconscious when there is a lot of attached medical equipment.

There is, however, one problem in its use on aircraft. In most aircraft the cabin is pressurised at 752.6 mbar (564.5 mm Hg). It is thus very important to make sure that the vacuum in the mattress at ground level is greater than 300 mbars (225 mm Hg), otherwise it will become soft as the aircraft reaches its cruising altitude and its protective support would be lost.

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Carbon dioxide-dependent klebsiellae

SIR,—Dr Mair Thomas (24 September, p 830) has reviewed reports of strains of *Staphylococcus aureus* which require carbon dioxide for characteristic growth. We have found that some members of the genus *Klebsiella* have similar requirements. Eight routine isolates of *K ozaenae* were investigated. Some of these failed to grow on 5% defibrinated horse-blood agar and MacConkey agar in air at 37°C after 18 h; others produced minute colonies with occasional streaks of mucoid growth. Parallel cultures incubated at 37°C for 18 h in an atmosphere of 5% CO₂ produced mucoid colonies 3-4 mm in diameter.

As a result of this finding an examination of the growth requirements was made of 25 NCTC klebsiellae, including *K ozaenae*, *pneumoniae*, *edwardsii* var *edwardsii*, *edwardsii* var *atlantiae*, and *rhinoscleromatis*. Colony counts performed with the *K ozaenae* strains on horse-blood and MacConkey agar cultures incubated at 37°C for 18 h in 5% CO₂ showed in most cases a 1000-fold increase in numbers compared with parallel cultures in air. Increased colony counts were also obtained with two strains of *K pneumoniae* and one of *K edwardsii* var *edwardsii* when incubated in CO₂. All the organisms tested except *K rhinoscleromatis* produced larger colonies with increased mucus when grown in CO₂.

There have been previous reports^{1,2} of *K ozaenae* giving poor growth on primary isolation in air. From our observations we think that growth enhanced by CO₂ is a characteristic of this particular species. Like the CO₂-dependent staphylococci mentioned above growth was better at 30°C, but the colonies were smaller than those grown in CO₂ at 37°C.

All routine cultures in this laboratory including MacConkey plates are now incubated in CO₂ because we have isolated these CO₂-dependent organisms from a number of specimens, including sputum, and without this measure they would have been missed.

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¹ Donovan, T J, *Journal of Medical Laboratory Technology*, 1970, 27, 72.

² Fallon, R J, *Journal of Clinical Pathology*, 1973, 26, 523.

Psychological evaluation in cases of self-poisoning

SIR,—The paper by Dr R Gardner and others (17 December, p 1567) could have far-reaching consequences if its central conclusion that "physicians should decide for each of their patients if specialist psychiatric advice is necessary" is accepted. We would like to congratulate Dr Gardner and his colleagues on a most helpful study.

Our reservations are only in the wording and emphasis of the conclusions. When the authors state that "physicians should decide" they must not be misinterpreted. "Physicians" in their article refers to preregistration house physicians and registrars who had received recent instruction by psychiatrists in the assessment of suicidal risk and not, for example, to consultant physicians.

The Ministry of Health guidelines (HM)61(94)—recommending that patients with deliberate self-poisoning should be seen by psychiatrists—were introduced some years ago, presumably because of the small amount of clinical teaching in psychiatry given at that time in most medical schools. Recently this situation has improved and with it, we hope, the ability of young doctors both to recognise and to treat psychiatric illness. It is this factor and the further "instruction" given by Dr Gardner and his colleagues which contribute to the present findings. Those physicians without the benefit of either might do well to continue to follow the Ministry guidelines.

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ECT with curare

SIR,—With reference to the letter from Dr A Gillis (7 January, p 48) I believe that the records of the Middlesex Hospital and of the Woodside Hospital will reveal that curare was first used in Britain as a mode of modifying convulsion therapy on 13 August 1939.

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Awareness during operation

SIR,—Establishing a "first" is always tricky, but there is a much earlier account of "awareness during operation" than Dr A Gillis's of 1947 (7 January, p 48) and one that appears to have been overlooked by those writing on this subject. In 1908 Crile, in connection with his work on shock, was experimenting with mixtures of nitrous oxide and oxygen, hoping to avoid the harmful effects of ether and chloroform anaesthesia. As he described in his autobiography:

"About this time I had a revealing but embarrassing experience. I believed that nitrous oxide-oxygen anaesthesia put the patient completely to sleep. While making rounds with my staff and some visiting doctors I asked an extremely intelligent woman who had had an abdominal operation under complete nitrous oxide-oxygen anaesthesia what her memory of the event was.

"She asked, 'Shall I report everything?' Thereupon she began: 'This is a white female, aged 58,' and continued to give an exact repetition of the

notes read by the intern while she was supposedly under full anaesthesia.

"I was so completely mystified as to how much one can remember in an unconscious state that when my dentist, Dr John F Stephan, had occasion to do dental work for me we prepared a plan for testing the sequence of events going under and in coming out of gas oxygen anaesthesia."¹

Crile investigated the effects of different concentrations of nitrous oxide in oxygen on himself, and he gradually evolved a technique whereby, for surgical operations, the gas mixture was supplemented with small doses of hyoscine, morphine, and atropine.

Excluding the pioneer anaesthetists, many of whose patients were in a state of awareness, Crile's is probably the first account of "awareness" as we use the word today.

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¹ Crile, G, *George Crile, an Autobiography*, edited, with sidelights, by Gracie Crile, p 197. Philadelphia, Lippincott, 1947.

Teratogenic effects of waste anaesthetic gases

SIR,—Further to my previous letter (14 January, p 108) in which it was reported that 5 children born to anaesthetists had serious congenital abnormalities affecting the central nervous system or musculoskeletal system, it is with regret that I have to announce that a second child has since died. This is child No 5 in the list given in my letter, who died at the age of 5 months. She was born with obvious talipes and a number of reflexes were absent at birth—for example, the Moro reflex. There was also a mixture of peripheral neuropathy, blindness, and bulbar palsy, widespread electroencephalographic abnormalities, and convulsions. She suffered recurrent aspiration pneumonitis, consequent upon the bulbar palsy, which required several admissions to hospital and finally caused her death. A post-mortem has been held, but full details will not be known for some time owing to the need for detailed neuropathological studies.

This is the second death among these children, whose only link in common is that the fathers were occupationally exposed to waste pollutant anaesthetic gases.

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SIR,—Dr P J Tomlin's letter (14 January, p 108) and an article in a national newspaper¹ once again highlight the hazards of working in an environment "polluted" with anaesthetic gases. In a survey conducted in India,² apart from similar findings, the incidence of caesarean section in women anaesthetists was found to be much higher than in a control group. In addition, the developmental milestones of children of anaesthetists were more frequently delayed than those of others. The occurrence of such anomalies must bear some relationship to the inhalation of anaesthetic gases (in low concentrations over long periods) as teratogenicity has been shown to occur under experimental conditions.³⁻⁵ Further evidence for the implication of male anaesthetists is the birth of more female babies in their families irrespective of the occupation of the spouses.