two cases the foot was twisted laterally and virtually off the leg, whereas in the third case, the lateral malleolus only was fractured, entirely as a result of the foot resting only an inch (2.5 cm.) or so behind the front of the cab.

Surely some special design of bumper, allowing a deceleration to occur as a result of some crumbling, is required. Of necessity I presume the bumper would have to project some distance in front of the cab.—I am, etc.,

Frome, Somerset. M. D. BEGLEY.

Accident Services

SIR,—For some time now there has been correspondence concerning the "mortality of the ambulance ride," ambulance design, the use of helicopters and other related subjects, the most recent of which appears under the heading "Morphine for Accidents" (20 July, p. 188). The common theme to all these subjects is the patient's condition before arrival in hospital.

I have worked in an accident and emergency department for several years now and have been doing some research into the problem of the treatment and transport of the injured, and from my results the conclusions point to a simple solution. For non-medical people to administer powerful drugs such as morphine I feel would not be in the best interests of the patient. I have seen a case of extreme circulatory collapse from the effects of analgesic drugs, and when given to patients with head, chest, or abdominal injuries they can seriously delay the proper diagnosis and treatment of the patient. The most important treatment for badly injured patients is fluid replacement, associated with clearance of the airway, often requiring intubation, and adequate splintage of fractures. I contend that this is too great a responsibility to place on the first-aid trained personnel alone. Is it right to expect them on their own to make decisions and perform techniques that can at times be difficult even for a doctor?

The solution is simple. A doctor should be available to go to any road accident at the request of the ambulance service, and it should be expected that some calls will be wasted journeys. It should take hardly any extra time for a doctor to get to the scene than the police since the introduction and sponsoring of the "Mediflash" green flashing light by the B.M.A. (*Supplement*, 8 July 1967, p 23; 2 December 1967, p. 556). Once there the doctor can put up a drip, clear the airway and intubate if necessary, and supervise splintage. Then, if it is still necessary, administer analgesics. The patient can then be moved in an ambulance, the design of which is not now so important, as the need for a very fast journey to hospital is eliminated. Should the design of the ambulance still give cause for concern, from my observations the best ride is offered by the estate car type, which we have used in this city with great effect. With careful attention to internal layout, treatment including the use of a drip pump, sucker manual or mechanical intermittent positive pressure respiration, and external cardiac massage can all be performed, while the patient has a noticeably improved ride.

My own scheme includes the use of a direct radio link with the ambulance control and the use of a comprehensive set of medical equipment, and I feel that the results justify such a project. This has been confirmed independently by Dr. K. C. Easton and his colleagues in Yorkshire),[1] who have a telephone link with the police and claim to have saved 12 lives in six months.

Finally, can we justify the expense? The Road Research Laboratories costing of road accidents in 1961[2] for medical expenses and loss of output show a cost to the community of £2,970 per fatal casualty and £770 per serious casualty—a life saved is also £2,200 saved.—I am, etc.,

Dunkerton, Near Bath. R. SNOOK.

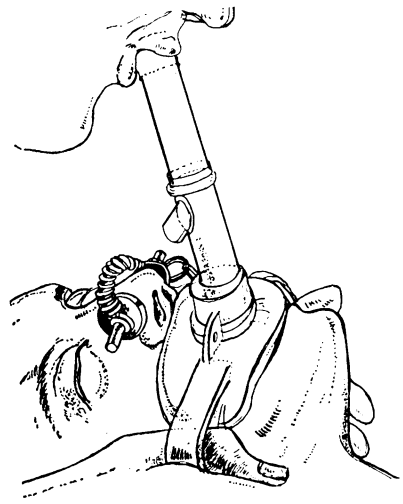
REFERENCES

1 *Medical News*, 19 July 1968.
2 *Annual Reports of the Road Research Board "Road Research 1961."* H.M.S.O., London.

Improved Airway for Resuscitation

SIR,—The Brook airway has rightly won world-wide recognition as a suitable device for first aid resuscitation. It is, however, sometimes difficult to achieve an effective air-tight seal with the mouth guard and at the same time support the jaw and compress the nostrils.

In order to overcome these difficulties the mouth guard of the Brook airway has been replaced by that of the German oral mask 42010. The nose clip, which is attached by a chain to the mouth guard, effectively seals the nostrils, and the loops which are attached to the sides of the mouth guard enable the thumbs of the resuscitator to achieve a perfect seal. In this way the fingers of each hand are left free to effectively support the jaw and maintain a clear airway. These points are illustrated in the Figure.



The German mouth mask may be obtained from Messrs. T. E. M. Sales Ltd., Gatwick Road, Crawley, Sussex, and the Brook airway from Messrs. Hutchison Blease Ltd., Deansway, Chesham, Bucks.

My thanks are due to Mr. H. G. Galloway, Department of Medical Illustration, University of Aberdeen, for the illustration.

—I am, etc.,

W. N. ROLLASON.

Department of Anaesthetics, The Royal Infirmary and University of Aberdeen.

Hypnotics

SIR,—Your "Today's Drugs" section (18 May, p. 409) contains the statement that "there is no good evidence" that there is a lesser risk of patients becoming dependent on non-barbiturate hypnotics than on hypnotics. It is certainly true that the non-barbiturates have been in clinical use for a much shorter period than the barbiturates, that it takes time before the dependence-producing risk of a new drug can be fully assessed, and that very likely any drug with a sedating (or stimulating) effect on the C.N.S. will be found to produce dependence, at least in emotionally vulnerable personalities.[1 2]

In view of the great risk that alcoholics may develop a dependence on barbiturates when giving up alcohol[2] we have over the past 15 years replaced them for this type of patient by non-barbiturate hypnotics and tried to evaluate their drawbacks and "addictive" potentials.[3] Moreover, alcoholics can be relied upon to act as spontaneous guinea-pigs for any available new sedative coming on the market, often taking them in excessive dosage. We certainly have come across occasional cases of dependence on most of the non-barbiturate hypnotics[3] among alcoholics and other unstable, immature, and inadequate personalities—in the main on glutethimide and Mandrax—but compared with the steady flow of cases of barbiturate abuse and dependence cases of habitual misuse of the non-barbiturate hypnotics were few and far between. Introduced to barbiturates, such people often become quickly reliant on them and beleaguer their general practitioners later in order to obtain them. We only rarely heard of such cases among those patients who had been treated in hospital with non-barbiturates; and in the history of such patients accounts of abuse of non-barbiturates were quite rare compared with the frequency of habitual overdosage with barbiturates (in over 25% of alcoholic patients).[3] The benzodiazepine compound nitrazepam,[4] the latest non-barbiturate discussed by you, has been used by us as an effective routine hypnotic for three years, so far without coming across any cases of dependence, but it would be remarkable and highly surprising if sooner or later it will not be found to lead to dependence, at least in vulnerable personalities.[5]

In "dependence-prone" personalities—alcoholics, other unstable individuals, people who had previously been dependent on other drugs—the use of any hypnotic may obviously lead to abuse and dependence, and where hypnotics cannot be avoided their use should be limited to a minimum. For such people the barbiturates, though undoubtedly effective, seem to carry a special risk, and at the present state of knowledge some of the newer non-barbiturates, though certainly not free from risk, and despite the lesser length of observation period, seem to carry a much lesser risk of leading to abuse and dependence.

—I am, etc.,

M. M. GLATT.

St. Bernard's Hospital, Southall, Middlesex.

REFERENCES

1 Glatt, M. M., *Brit. med. J.*, 1957, **1**, 164.
2 Glatt, M. M., *Bull. Narcot.*, 1962, **14**, No. 2, 19.
3 Glatt, M. M., *Psychiat. Neurol.*, 1966, **152**, 28.
4 *Brit. med. J.*, 1967, **2**, 36.
5 Glatt, M. M., *Brit. med. J.*, 1967, **2**, 444.