and the concentration of anaesthetic gases reaching them is much reduced by dilution with room air and with air from other suction outlets. We have been unable to find any evidence for the alleged ill effects of anaesthetic agents on pump oil, and examination of our pumps after seven months' scavenging showed no signs of abnormal wear. We have had the active interest and co-operation of our district works officer at all times and the area authority has agreed that we can continue to use CPV until further notice.

We chose active scavenging originally because our operating rooms have no outside walls and no exhaust ducts as they use a simple plenum ventilation system. Our experience with active scavenging, however, has convinced us that it has many advantages over the passive system. The small-bore tubing that can be used is much less cumbersome than is required with a passive system to prevent excessive breathing resistance. It is less liable to be accidentally kinked and if it is the patient is not harmed. The system is more effective than the passive because any leaks are inwards. The extraction makes an audible hiss that indicates that it is working, and the patient's expirations modulate this sufficiently to make respiration audible. If CPV is available the system is very cheap to install as it requires no engineering works and no new anaesthetic equipment.

HAROLD DAVENPORT
MICHAEL J HALSEY
BRIDGET WARDLEY-SMITH
B M WRIGHT

Anaesthetic Department,
Northwick Park Hospital,
Harrow,
Middlesex

SIR,—Dr H T Davenport and his colleagues (20 November, p 1219) are to be congratulated for describing their excellent method of monitoring the exposure of operating room staff to inhaled anaesthetics. We have recently had the opportunity to study the environmental pollution caused by nitrous oxide in a theatre which has no ventilation system. The mean exposure of an anaesthetist to nitrous oxide was determined by using integrated personal sampling as described by Dr Davenport and others. The results obtained are shown in the table.

Exposure of anaesthetist over 10-minute period: Magill circuit and spontaneous respiration (N₂O: O₂ 6:3 l/min)

	Nitrous oxide (ppm)	
	Anaesthesia induction room (10 samples)	Operating room (10 samples)
Mean ..	1824.1	1153.3
Range ..	986-2775	583-1932

We disagree with Dr P Cole (25 December, p 1563) that only blood samples will provide a simple and reliable measure of the average exposure, integrated over time. Nitrous oxide is a relatively insoluble agent. Its blood/gas solubility coefficient is 0.47 and tissue/blood partition coefficient is near to 1.0. Equilibrium between the tension in the alveolus and most tissues is achieved fairly rapidly. In our opinion end-tidal samples can provide adequate information and furthermore these are much simpler and easier to obtain from theatre personnel than repeated blood samples.

To achieve efficient control of pollution in the operating theatre environment it is essential to have a non-recirculating type of air-conditioning system, a safe and effective scavenging system for waste anaesthetic gases,¹ regular equipment maintenance and careful anaesthetic techniques to prevent gas leaks, and an air monitoring programme to indicate the effectiveness of these preventive measures.² Failure to institute any of these measures will continue to lead to excessive exposure of the operating theatre personnel to anaesthetic gases and vapours.

S MEHTA
P BURTON
J S SIMMS

Departments of Anaesthetics
and Biochemistry,
Burnley General Hospital,
Burnley,
Lancs

¹ Mehta, S, *et al*, *Canadian Anaesthetists' Society Journal*, 1975, **22**, 271.

² Whitchee, C, *et al*, HEW Publication No (NIOSH)75-137. Department of Health, Education and Welfare, Washington, DC, 1975.

Characteristics and prognosis of alcoholic doctors

SIR,—Dr R M Murray's findings (25 December, p 1537) of a high prevalence of alcoholism (often associated with drug misuse) in doctors are confirmed by our observations. For example, there were 11 doctors (3.0%) among about 290 male alcoholic patients in Warlingham Park Hospital in the 1950s,¹ 44 doctors (3.0%) among about 1500 first male admissions to the St Bernard's Hospital alcoholic unit (3.0%) between 1964 and 1976, and 41 doctors (2.4%) among about 1700 male alcoholic patients seen outside hospital between 1970 and 1976. Prealcoholic emotional instability seemed more common among our female doctor patients than among men, but in contrast to Dr Murray's series definite prealcoholic psychiatric abnormalities and personality disorder were uncommon among our alcoholic doctors; and it seems from an admittedly incomplete follow-up that most have done well as regards drinking habits and continuation with, or resumption of, their medical practice. For example, of 13 doctor patients of the St Bernard's unit over the past four years, nine have maintained sobriety and are back in general or hospital practice. Incidentally, of 120 alcoholic doctors in contact with the recently formed Alcoholic Doctors' Group in this country,² almost all have now been sober for some time and do well in their practice. The most common prealcoholic psychiatric "abnormality" reported by our doctor patients seemed to be a relatively high degree of anxiety in student days.

Doctors are clearly no exception from the general rule that under unfortunate circumstances even average ("normal") personalities can develop alcoholism.³ In fact, doctors seem to be a high-risk group in regard to alcoholism because of a combination of under- and post-graduate factors. In undergraduate days, during a long period of strenuous training and examinations, heavy drinking is often accepted among medical students as the norm; and later medical practice brings continual excessive emotional and physical demands, frustrations, great responsibilities, with the obvious desire and need to relax after working hours. Under such circumstances even emotionally not particularly "vulnerable"

individuals may during student days become regular drinkers and start excess ("relief") drinking while in medical practice. Unlike Dr Murray's patients, in our experience most doctors' alcoholism seems to be due to environmental factors rather than individual emotional instability.³ Prevention seems therefore an even more important object—such as education of medical students as to the specially high risk of alcoholism among doctors. Referral of more difficult and disturbed psychiatric patients to the Maudsley may have been in part responsible for an atypical and rather unrepresentative composition of Dr Murray's sample, with consequent relatively poor prognosis. The average alcoholic doctor might possibly be deterred even further from seeking help by reading that alcoholic doctors more often than not may suffer from marked psychiatric personality problems. It therefore seems important to stress our findings that most alcoholic doctors show no marked prealcoholic psychiatric abnormalities and stand an excellent chance of all-round improvement and indeed recovery—once they face up to the problem.

M M GLATT

St Bernard's Hospital,
Southall,
Middlesex

¹ Glatt, M M, *British Medical Journal*, 1968, **1**, 380.

² Glatt, M M, *Journal of Alcoholism*, 1976, **11**, 85.

³ Glatt, M M, *A Guide to Addiction and its Treatment—Drugs, Society and Man*, Lancaster, Medical and Technical Publishing, 1974.

Mobility for the disabled

SIR,—I was interested to read your report (29 January, p 296) of Mr Ennals's assurance for the umpteenth time about the new mobility arrangements for the disabled. For some of my chairbound patients the mobility allowance of £5 a week taxable will be a poor alternative to a private vehicle, albeit the invalid tricycle, now noted to have a high accident rate.

Accidents can, of course, be attributable to faults in a driver as well as a vehicle. Drivers of invalid tricycles have disabilities which, though not making them individually unfit to drive (whatever the accepted criteria are for that), are very likely to make their accident rate as a group higher than that of the healthy population driving ordinary cars. Many of the younger disabled have cerebral palsy and paraplegia and the older ones disseminated sclerosis, rheumatoid arthritis, and other degenerative disorders such as Parkinsonism, osteoarthritis, cardiorespiratory failure, and peripheral vascular disease. Most of these diseases have known neurological effects which can impair sensory pathways, perception, learning, memory, judgment, and motor abilities for co-ordination and reaction speed. Indeed, some of the paraplegics may have been injured in circumstances attributable to their own behaviour. It should require no comment that new drivers of invalid tricycles are particularly prone to accidents.

Those eligible for the mobility allowance must be "virtually unable to walk," this being decided after medical examination. Despite inquiry, I do not know the criteria for this decision. Must the patient be unable to walk from bed to toilet or from home to bus stop? I would have hoped that before an expenditure of over £30m a year was authorised some criteria shown to be consistent should be

available for all to know. These criteria could be as strict as necessary to ensure fair allocation of whatever funds can be made available. The investigation required for this need not be difficult, some preliminary work for assessing disability in chronic bronchitics having already been done.¹

I would also have hoped that before stopping the issue of new invalid tricycles (currently 18 000) the investigation should have been done to ensure that the mobility of those previously eligible could be extended at least as effectively by the provision of the new allowance. Only for that reason can its advantage be validated.

Government decisions for the disabled appear to be influenced by political pressure and by whims of public opinion more than by established clinical facts. In the case of invalid tricycle accident rates the distinction seems to have been forgotten between statistical probability for the comparison of groups and for the prediction of events likely for an individual. Until some research into the facts is published so that its standard of scientific inquiry can be judged Mr Ennals's assurance about the arrangements, even for existing invalid tricycle drivers, are unconvincing.

CAIRNS AITKEN

Rehabilitation Studies Unit,
University Department of
Orthopaedic Surgery,
Princess Margaret Rose
Orthopaedic Hospital,
Edinburgh

¹ McGavin, C R, and Gupta, S P, and McHardy, G J R,
British Medical Journal, 1976, 1, 822.

Royal College of General Practitioners

SIR,—Dr Ian Capstick (5 February, p 373) wonders why the Royal College of General Practitioners is not very popular with GPs. May I tell him why the college repels one ancient ex-member but assure him that similar reasons repel quite experienced GPs who are 20 or 30 years younger than I am? May I also assure him that I still think the idea of the college was a good one, that I should like to see a fresh start, and that I am too old to have a taste for grapes, whether sweet or sour?

(1) The college seems to claim that its members are an élite group, a magic circle of worthies entitled to be looked up to as representing "all that is best in general practice."

(2) It seems to promote clinical and managerial orthodoxies and enforce assent (or at least lip-service) to them on those who wish or think it prudent to join the circle. The fact that they are frequently expressed in unintelligible language (modules of un-health, sensory modalities) lends them a whiff of charlatanry. There is no place for infallible dogma in any of the sciences; this year's orthodoxy is often next year's laughable nonsense, and even the "laws of nature" remain hypotheses.

(3) The college gives the impression of being on the make. It has cornered the lucrative vocational training business and established the right to speak on behalf of all of us wherever there is power to be wielded or personal advancement to be had, without making much or any attempt to find out what we think.

(4) The business of faculties, provosts, censors, chains, and gavels may be well enough for institutions that date back to the 16th century or even the 12th but looks like a

pompous charade or a comic turn in one that was born in the second half of the 20th.

DAVID CARGILL

Maldon, Essex

SIR,—Dr Ian Capstick in his Personal View (5 February, p 373) expresses feelings which I am sure are common to many of us who, like him, entered general practice as first career choice with the ambition to practise good clinical medicine and who joined the Royal College of General Practitioners to further the cause of good medicine in general practice.

The college appears to the ordinary GP to have lost sight of the fact that good general practice is first and foremost about good clinical medicine. It has performed a useful function in trying to establish general practice as a specialty in its own right, but in doing this it has striven too hard to try to prove that general practitioners are different from other doctors. My view is that they are not. Good doctors from the time of Hippocrates and no doubt before that have always cared for the whole patient.

The matters which seem to be of great concern to the college at the present time, such as the dynamics and components of the consultation, are frills and luxuries when we hear frequent stories of patients going to their GPs with serious physical illnesses which are not investigated; where the patient is not properly examined and is given Valium tablets when he has a serious and treatable condition.

I am sure that the college would gain much more respect and support if it made serious efforts now to tackle the problems of bad clinical medicine and to give much more thought to how general practice should be organised to give the best clinical service, particularly in the large urban areas where most of the people live.

RAINE ROBERTS

Wythenshawe,
Manchester

Self-poisoning with drugs

SIR,—In reply to some points raised in correspondence (29 January, p 286) since the publication of my paper (1 January, p 28) it is probably right, as Dr F J Flint writes, that my quoted figure of 50 incidents of self-poisoning in Sheffield in 1955 is too low. However, a proper search was made and all suspicious incidents in the casualty records such as "collapse" or "coma" were examined and compared with the inpatient notes, as clearly I was aware of the implications of the Suicide Act.

It is too early to tell whether the rising incidence of self-poisoning has reached a plateau. The suspicion of Drs M M Sundler and S M Amiel may be confirmed, but only further observation will establish this point. As for their concluding remarks, I firmly believe that too many people are taking too many hypnotic and psychotropic drugs for too long. The benzodiazepines may be extremely safe drugs, but this hardly justifies their use as the universal panacea.

Dr D J Pallis is also correct. I cannot justify my suspicion that the junior hospital doctors' dispute led to the observed fall in the number of admissions during December 1975. The

Monthly average daily admission rate due to self-poisoning at three Sheffield hospitals (1969-75). The continuous straight line is a regression line, the parallel dotted lines are arbitrary confidence limits.

data do not bear statistical scrutiny. If, however, the facts are represented graphically (see figure) the theory at least looks plausible. If I have planted the seeds of doubt and encouraged others to examine critically their own material in a similar fashion I will have served my purpose.

D I R JONES

Department of Community
Medicine,
University of Sheffield Medical School,
Sheffield

Multiple courses of ancrod (Arvin) therapy

SIR,—We read with interest the report by Drs N G Kounis and A W Howel Evans (29 January, p 291) of the patient who received, over six years, five separate courses of ancrod (Arvin) without anaphylactoid reaction or the development of drug resistance. We have also recently described¹ a similar patient with recurrent thromboembolic disease who received ancrod for a total of 45 days but thereafter developed complete resistance. After an initial 19 days of ancrod anticoagulation in our patient was changed to warfarin. Six days later, because of the recurrence of deep vein thrombosis, ancrod was recommenced and continued for a further 26 days. It was then stopped for 12 h to allow surgery for plication of the inferior vena cava, but this had to be postponed because of pneumonia. On restarting ancrod for the third time the patient was found to have developed total resistance as judged by a modification of the test described by Pitney *et al*²; this was still present two months later.

The reasons for the development of drug resistance after repeated courses of ancrod in our patient and not in the one described by Drs Kounis and Evans are not clear but it could be the shorter courses given to the latter and the simultaneous administration of corticosteroids. If multiple courses of ancrod are found to be useful in the treatment of recurrent thromboembolic disease the onset of drug resistance might be delayed or prevented by limiting the duration of individual courses and increasing the intervals between each course.

N C THOMSON
A W HUTCHEON
J H DAGG

University Department of Medicine,
Western Infirmary,
Glasgow

¹ Thomson, N C, Hutcheon, A W, and Dagg, J H,
British Journal of Clinical Practice, 1976, 30, 232.
² Pitney, W R, *et al*, *Lancet*, 1969, 1, 79.