showed the beneficial effect of dapsone in preventing the spread of the disease.

I have also been surprised at the decision by the faculty to teach leprosy to medical students in the leprosarium, especially at Garkida, where there is an emphasis on institutional care, reconstructive surgery, and the making of prostheses and where so much time and money are spent on the patients *after* they have become crippled and so little on curing the patients and preventing the spread of the disease. The place to teach leprosy is in the outpatient clinic run by auxiliary staff, and the area around the medical school would be ideal for this purpose. Then it could be demonstrated that the disease can be cured, prevented, and eradicated by the administration of dapsone.

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¹ Ross, C M, in *Leprosy in Theory and Practice*, ed R G Cochrane and T F Davey, p 595. Bristol, Wright, 1964.

² Crawford, C L, *Leprosy Review*, 1969, 40, 159.

Occupational exposure to inhaled anaesthetics

SIR,—I wholeheartedly agree with Dr H T Davenport and his colleagues (20 November, p 1219) that there is "little or no information" on the real exposures of theatre personnel to anaesthetic agents and that studies of "spot concentrations in various parts of the operating suites" make it "extremely difficult if not impossible to evaluate methods of reducing exposure." To overcome the problem they advocate that the subject carries around on himself a continuous personal sampler which can estimate the average exposure of the subject integrated over time.

I would, however, suggest that data provided by this technique indicate only a *possible* health hazard—they do not in fact prove that the subject absorbs such contaminants. Only blood sampling will do this. Furthermore, blood samples in themselves provide "a simple and reliable measure of the average exposure of the person, integrated over time."

In other fields of atmospheric pollution direct sampling of the blood of the exposed subject is now the recommended technique¹ because atmospheric samples can be shown to provide misleading data.² For this reason this laboratory is at present carrying out a study of the blood levels of nitrous oxide in theatre personnel.

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¹ Astrup, P, in *Proceedings of the European Colloquium on Health Effects of Carbon Monoxide Environmental Pollution*, Luxembourg, 1973, p 376. Luxembourg, Office for Official Publications of European Communities, 1974.

² Cole, P V, *Nature*, 1975, 255, 699.

Night cramp

SIR,—The older *National Formularies* had reference to tablets containing one grain (60 mg) of quinine bisulphate. One tablet of this strength taken nightly effectively prevented night cramp for most sufferers.

Our pharmacists now cannot provide these low-dose quinine tablets, the only quinine

tablet in the current *British National Formulary* being quinine bisulphate 300 mg. These stronger tablets are no more effective for cramp but their cost is greater and the risk of causing ototoxicity is proportionately increased (Dr H B Lee, 20 November, p 1259).

As cramp is now the major indication for the use of quinine in Britain my plea is for the reintroduction of the cheaper, safer, and equally effective 60-mg tablet of quinine bisulphate.

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SIR,—The problem of nocturnal cramp recently reappeared in the *BMJ* and, as usual, various drug treatments are recommended (9 October, p 861, and 20 November, p 1259).

According to Rivlin¹ nocturnal cramp can be prevented by raising the foot of the bed about 25 cm (9 in). Surely this is worth a trial. Moreover, if cramp does occur there is a simple physiological method of aborting the attacks by using the reciprocal inhibition reflex. When one muscle group is contracted the antagonist muscles relax. Therefore instruct the patient to contract *actively* the muscles on the other side of the limb. Thus an attack of cramp in the calf is relieved by strong active dorsiflexion of the foot. Admittedly there are other reflexes such as the stretch reflex and the anti-stretch reflex which may be invoked in the treatment of cramp² but my personal experience, confirmed by others,³ is that the reciprocal inhibition reflex works very well.

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¹ Rivlin, S, *Lancet*, 1973, 1, 203.

² Fowler, A W, *Lancet*, 1973, 1, 99.

³ Conchubhair, S W, *Lancet*, 1973, 1, 203.

Measuring blood flow

SIR,—Your leading article (27 November, p 1279) rightly draws attention to the emergence of vascular laboratories in which patients with peripheral arterial disease are studied by non-invasive methods. However, the speculation that "patients will soon be selected for reconstructive arterial surgery on the basis of routine ultrasound investigations alone" grossly understates the importance of clinical and arteriographic assessment and gives a misleading impression of research objectives in this field.

Arteriography, particularly using biplanar views, is an effective, widely used, and relatively safe method by which the extent of disease and suitability for operation may be defined. Clinicians will justly regard with reserve the suggestion that prereconstruction arteriography is to be replaced by ultrasound examinations.

Non-invasive tests complement rather than replace arteriography in that they can help to (1) distinguish the symptoms of vascular insufficiency from those of neurological and orthopaedic conditions in patients with leg and foot pain, (2) monitor the function of arterial grafts intraoperatively and in the recovery room (particularly in patients undergoing aortoiliac reconstruction in the presence of a superficial femoral artery occlusion), (3) provide

an objective index of vascularity in outpatients under observation, and (4) predict the likelihood of successful healing of a below-knee amputation. It would surely have been more appropriate to illustrate the clinical contribution of ultrasound measurements of pulsatile blood flow in these areas than to imply that ultrasound is to replace the present concept that clinical assessment of the patient and clinical indications for operation are of paramount importance.

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Allergic reaction to chlormethiazole

SIR,—Dr A A Khan (6 November, p 1105) was interested to know whether other cases of allergic reaction to chlormethiazole (Heminevin) have been noted.

A man aged 56 was given, outside hospital, chlormethiazole, three capsules daily, as treatment for alcoholism and promptly developed an itchy rash. He continued to drink heavily and so 14 days later was admitted to an addiction unit. On admission he had a faint, pruritic, raised, blotchy rash on the buttocks and thighs. Chlormethiazole dosage was raised to six capsules daily and then tapered to zero over the following week. Twelve hours after the start of the higher dose schedule the rash became more florid and extended to the lower trunk. The patient was not distressed and during reduction of dosage the rash faded.

Pruritus is a common though relatively untroublesome side effect of chlormethiazole but this is the only instance of allergic rash encountered among approximately 2000 patients who have received the drug in the unit. It is worth noting that until admission this patient was taking two sedative and dependency drugs: alcohol and chlormethiazole. The latter should be prescribed to alcoholics only in a short course under close supervision for the purpose of suppressing alcohol withdrawal symptoms.

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Perchloroethylene intoxication

SIR,—The inhalation of perchloroethylene, a volatile solvent much used in industry, may induce transient mental changes. Despite its characteristic odour, familiar in dry-cleaning shops, these cerebral effects are seldom reported. It would seem likely that they are often missed. I should like to record an example of this form of intoxication in a 62-year-old chemical plant worker.

Although he was well known as a sober sort of chap, the factory nurse thought that he must be "drunk." All the same she sent him to hospital. Here suspicion was aroused by the chemical smell from his clothing. Tests for alcohol were negative. Within six hours he had recovered, still unaware of what had happened to him. The plant manager insisted that there had been no working hazard. Later, however, it was found that the perchloroethylene content of the air in which the man had been working was 500 ppm, a significant concentration since similar symptoms have been described at 200 ppm.¹