

I would cross swords with Mr Smith in regard to "tight heel cords" as a primary condition. It is, of course, a contraction of the muscles and there seems to be clear evidence that it is secondary to the foot deformity.³ There is now no good reason why children with physiological flat feet should flood orthopaedic clinics and, even worse, have ineffectual treatment "to reassure the parents" when the pathological flat foot can now be confidently identified, the principle of treatment understood, and orthoses designed and continued for an adequate time, thus avoiding the considerable limitation of ambulation in the adult hypermobile foot.

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- 1 Smith MA. Flat feet in children. *BMJ* 1990;301:942-3. (27 October.)
- 2 Harris RI, Beath T. *Army foot survey. An investigation of foot ailments in Canadian soldiers.* Ottawa: National Research Council of Canada, 1947.
- 3 Rose GK, Welton EA, Marshall T. The diagnosis of flat foot in the child. *J Bone Joint Surg [Br]* 1985;67:71-8.
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SIR,—Mr M A Smith states that "orthoses will not alter the natural correction" and that in feet that do not correct naturally, "treatment will make no difference either."¹

Though I would agree that a high proportion of feet correct with growth, I would like to draw attention to a retrospective study we carried out on 85 feet in skeletally mature subjects who had had uncomplicated flat feet to assess the effects of treatment.² The results suggested, but did not prove, that early mechanically effective treatment for feet judged to be abnormal will produce appreciable improvement whereas late or mechanically ineffective treatment may allow deterioration.

In view of these results our statistician thought that a randomised trial of treatment would not be ethically justified in patients with more severely affected, uncomplicated, flat feet. As a small group of patients develop symptoms later in life if the deformity persists we recommend that early effective orthotic treatment should be offered.

This leaves us with the dilemma of how to recognise this group at an early age. The great toe extension test³ goes some way towards achieving this, but further research is required to identify the group more accurately. Work continues in the orthotic research and locomotor assessment unit to this end.

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- 2 Rose GK, Welton EA, Marshall T. The diagnosis of flat foot in the child. *J Bone Joint Surg [Br]* 1985;67:71-8.

Retreat from medicine

SIR,—Dr A G Donald's experience of falling numbers of applicants for vocational training schemes¹ is certainly confirmed by what has happened in Yorkshire. In one district it was necessary to advertise three times before places on the vocational training scheme were filled.

Many districts are now appointing Dutch and German doctors to fill the posts, and in peripheral district general hospitals it is now common to find many doctors from other European countries. It would seem that the NHS is staffing its junior medical posts with such doctors in the same way as it used to fill them with doctors from India and Pakistan.

But where are our own graduates going? Many of them seem to be spending a large part of their

training in Australia and New Zealand, countries that have a law limiting the length of time a doctor can be on duty and where overtime is paid for at a higher rate. The big problem for the NHS is to try to discover whether these doctors will ever return to the United Kingdom in the present medicopolitical climate.

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- 1 Donald AG. Retreat from general practice. *BMJ* 1990;301:1060. (10 November.)

SIR,—Dr A G Donald's editorial suggests that the difficulties facing NHS doctors are growing.¹ With the current restriction on training grades it is unlikely that more doctors will be able to enter hospital medicine. Thus if general practice becomes unattractive more young doctors will seek careers outside medicine. Indeed, the *BMJ* has carried advertisements offering advice to those wishing to leave medicine.

We need to know how many medical graduates are seeking careers outside medicine and the reasons why they leave (as opposed to those who make known their complaints but remain). We cannot afford the expense or the time of skilled teachers to train doctors if they are to become disillusioned or disappointed by failure in their chosen careers.

Last year I tried to identify and contact London graduates of the previous two years who had failed to complete preregistration posts. Admittedly my inquiries had no official status, and medical schools pointed out that data on their students were confidential. It seems, however, that there is no system for keeping track of the careers of individuals.

The Department of Health does record numbers: between 1981 and 1987 an average of 4% of medical graduates did not start the preregistration year (this may include overseas graduates who returned home), and an average of 7.6% of those who started did not complete the year. (At each stage slightly more men than women left.) I do not know how many doctors leave practice prematurely.

Medical teaching and qualification is too precious a privilege to be wasted. At present no one is responsible for finding out how much is lost, why, and what is happening to these doctors.

I would like to suggest that some organisation should, with the cooperation of the medical schools, have a responsibility for prospectively monitoring this information and for making public their findings. This could be the General Medical Council, the Department of Health, or a university department of social studies.

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- 1 Donald AG. Retreat from general practice. *BMJ* 1990;301:1060. (10 November.)

Carbon monoxide poisoning in the home

SIR,—Mr Rudy Crawford and colleagues reported cases of carbon monoxide poisoning from a gas boiler.¹ We would like to draw attention to the risks from open fires.

A 61 year old man was referred with a suspected myocardial infarction and a four hour history of retrosternal oppression. He had been given diamorphine at home and had vomited in the ambulance. On admission to hospital he was drowsy with small pupils, and inspiratory crepitations were audible at the left base. Electrocardio-

graphy showed sinus rhythm with 2 mm of ST segment depression in the anterior leads. Chest radiography gave normal results. An initial neutrophil leucocytosis (white cell count $19 \times 10^9/l$) resolved, as did the electrocardiographic changes. His serial cardiac enzyme activity was normal, and he remained asymptomatic from the time of admission.

An interesting feature had, however, been noted in the initial history: on awakening with chest pain he had eventually alerted his wife, who, after rising to telephone, collapsed herself, although her condition was not thought serious enough to warrant hospital assessment. On talking to her later the possibility of carbon monoxide poisoning became apparent. The couple were temporarily without electricity and, as they were in the dark, had lit a fire upstairs, which they continued to burn overnight. It was smoky as they had a blocked chimney. The patient's carboxyhaemoglobin level on admission to hospital was 33%. His wife was tested three days later and then had a normal level (1.1%). Neither of them has been symptomatic since. An exercise test on the patient gave a normal result (modified Bruce stage 6).

Exertional syncope is a feature of acute carbon monoxide poisoning,² as is myocardial ischaemia. Ischaemia occurs at lower carboxyhaemoglobin concentrations in those with pre-existing coronary disease³ and is an indication for hyperbaric oxygen.⁴ Carbon monoxide is a hazard with incomplete combustion of any carbon containing fuel.² Natural fires are fashionable, and although faulty or poorly ventilated gas appliances remain the more common cause of accidental poisoning,² poorly ventilated domestic open grates should not be forgotten and chimneys should be swept at least once a year.³

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Recognising pseudo-seizures

SIR,—Dr M D O'Brien discussed the management of status epilepticus in the hospital.¹ We believe that junior doctors faced with such a medical emergency should be made more aware of a related and important clinical problem.

Pseudo-seizures have an incidence as high as 15% in epileptic patients whose attacks are poorly controlled.² In a review of a regional neurology centre true status epilepticus was found to be infrequent compared with pseudo-seizures.³ Pseudo-status epilepticus can lead to unnecessary repeated administration of parenteral anticonvulsants with potential risk to the patient. Respiratory arrest occurred in eight out of 69 episodes of pseudo-status epilepticus in 13 patients reported on by Howell *et al.*³

We identified four patients with pseudo-status epilepticus who presented over six months. All received multiple boluses of intravenous diazepam and various other parenteral anticonvulsants in the emergency department on the assumption that they were in status epilepticus. One patient required transfer to the high dependency unit following iatrogenic respiratory arrest. They were admitted to hospital on 21 separate occasions over the six months, one girl having been admitted to five hospitals in the region. This multiple hospital attendance has been found by others.⁴