chair is deficient; it may have 11 inch pneumatic tired rear wheels but if the front wheels are not swivel castors propulsion by the attendant is very difficult. Also model 9L chairs do not have detachable sides, making sideways transfer difficult. Fourthly, the use of polyurethane foam and its hazards have been highlighted recently in the national press. Dr Malcolm Ellis in his article on easy chairs (5 March, p 701) considered the use of fire resistant materials desirable. Fifthly, mention is made of the use of a plywood base board to improve the cushioning effect; plywood is too hard a substance; chip foam is far more suitable. Finally, Dr Young says that electric wheelchairs are heavy, do not fold, and require space. But both models 109 and 103 will fold easily once the batteries have been removed. The same applies to the powered carter's chair, but removing the batteries is more difficult.

It was disappointing to find in the references no mention of the booklet on wheelchairs produced by Mary Marlborough Lodge, which covers both DHSS chairs and those which may be bought privately.¹ Rookwood Hospital and the Royal Hospital and Home, Putney, have both produced excellent booklets aimed at the professionals and disabled people.

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1 Cochrane GM, Wilshire ER, eds. *Equipment for the disabled. Wheelchairs*. 5th ed. Oxford: Oxfordshire Health Authority, 1982.

AUTHOR'S REPLY,—Dr Tudor is misinformed about who can authorise a DHSS wheelchair prescription. Inquiries to staff within the artificial limb and appliance centres confirm that form AOF5G can be signed only by a medical practitioner.

Since I wrote my article the appliance services have started reorganising in preparation for their integration into regional and district health authorities on 1 April 1991. The proposed restructured wheelchair service will place greater emphasis on joint assessments of individual patients by doctors and therapists in district based wheelchair clinics. A new wheelchair prescription form is being produced designed to encourage combined doctor-therapist assessments. There are no plans, however, to change the current practice for the instigating signature being that of a medical practitioner.

Describing wheelchairs is difficult because extensive modifications are available to the basic DHSS wheelchair carcasses. The written descriptions of the general purpose wheelchairs highlighted in the article were necessarily brief and confined to essential information about standard wheelchairs. They were amplified by illustrations, one of which clearly shows the swivel front wheel castors and the small thick 12½ inch diameter rear tyres of the 9L wheelchair commented on by Dr Tudor. The fixed front wheels about which Dr Tudor is so concerned are non-standard and available only on request. Detachable sidearms to facilitate sideways transfers are standard on the 8L models (as stated in the article) and are also readily available if required for the 9L series.

Fire risk for wheelchair users is an important aspect but should be placed in context. An inquiry sent to chief fire officers in England and Wales indicated that there were only 30 deaths among seated disabled people (chairs and wheelchairs) over five years (EW, personal communication). Most of these fires had been caused by lighted materials from tobacco smoking falling on clothes or blankets. Thus a fire resistant wheelchair cushion

would provide only minimal additional protection. Of greater value would be a fire proof apron or, especially for disabled people with weak or ataxic arms, a variation of the hookah, both items being commercially available.

It is correct that the electric wheelchairs 109 and 103 can be folded; it would perhaps be more accurate to say that they seldom would be folded as to do so requires removal of the heavy batteries mounted under the chair.

There are several wheelchair booklets available and I selected one, *People in Wheelchairs*, as being the most useful for the generalist.

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Psychiatric illness among British Afro-Caribbeans

SIR,—In their leading article Dr Roland Littlewood and Dr Maurice Lipsedge (2 April, p 950) misquoted the findings of our study on self poisoning among people of West Indian origin. We found that from 1979 to 1982 for those aged under 25 the incidence of self poisoning was similar among whites and West Indians, whereas for those aged over 25 West Indians were significantly under-represented.¹

The West Midlands poisons unit has been monitoring trends in self poisoning since 1976.¹⁻⁴ Compared with English born people, Irish and Scottish people of all ages have consistently been overrepresented whereas among those aged over 35 West Indians and Asians (Indian, Pakistani, Bangladeshi) have always been underrepresented. Of current concern is the incidence of self poisoning among young Asian women (aged under 35), which is now over double that among young white women and continues to increase annually by 30%.

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- 1 Merrill J, Owens J. Ethnic differences in self-poisoning: a comparison of West Indian and white groups. *Br J Psychiatry* 1987;150:765-8.
- 2 Wright N, Trethowan WN, Owens J. Ethnic differences in self-poisoning. *Postgrad Med J* 1981;57:792-3.
- 3 Merrill J, Owens J. Ethnic differences in self-poisoning: a comparison of Asian and White groups. *Br J Psychiatry* 1986;148:708-12.
- 4 Merrill J, Owens J. Self-poisoning among four immigrant groups. *Acta Psychiatr Scand* 1988;77:77-80.

The need to make rugby safer

SIR,—Mr N W Valentine and Dr M A De Lary (2 April, p 1005) state that in their spinal injuries unit there have been only two admissions in the past 10 years because of injuries from rugby. There are no records here of a major cervical injury before 1977, but since then we have had one each season and in 1983-4 we had six schoolboys with radiological evidence of cervical damage.¹

Since reports from rugby playing communities throughout the world have drawn attention to the increased incidence of cervical injury with paralysis, changes have been made in the laws related to forward play. A surprisingly fatalistic attitude has, however, been adopted to injuries among backs. The problem is usually shrugged away with the remark, "This is a bodily contact game and it isn't possible to remove tackling from it." No explanation is given why the game has changed character.

The Maori side step, known hereabouts as "bursting the tackle," is a highly dangerous manoeuvre where the runner aims himself directly at his tackler. Schoolboy three quarters of my generation were taught to elude the tackle by swerve, side step, dummy, or hand off. All these are safe procedures and involve a move away from the tackler. Nowadays the ball carrier is coached to run deliberately at the tackler, who is coming in with his neck flexed. If the impact of thigh or pelvis is on the flexed neck the result will be catastrophic. The Maori side step is more dangerous than the high tackle and should be banned from schoolboy rugby immediately. Adult rugger could also do without it.

To make matters worse, the changes in the rules in the early 1970s ordained that the backs should stand further apart at scrum and line out. As a result the momentum at impact is greater. This change places greater emphasis on the size and weight of the centres and there has been a gradual disappearance of the lightly built centre who was quick off the mark. Initial acceleration is less important now than size and weight.

An important difference between sustaining a major spinal injury when "diving into shallow water on holiday while inebriated" and becoming paralysed in a school game is the responsibility of the school for the accident. Even in New Zealand some schools have given up rugby. The aim of education is meant to be "Mens sana in corpore sano" not tetraplegia.

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1 McCoy GF, Piggot J, Macafee AL, Adair IV. Injuries of the cervical spine in schoolboy rugby football. *J Bone Joint Surg [Br]* 1984;66:500-3.

Hypoglycaemia in patients with insulin dependent diabetes

SIR,—The article by Dr Stig Pramming and colleagues (5 March, p 665) on the effects on the electroencephalogram of hypoglycaemia confirms previous results, but the finding of a blood glucose threshold at 2.0 mmol/l for electroencephalographic changes cannot be taken as it stands from this study.

The authors state that glucose was measured in plasma; if there was no correction then a plasma glucose value of 2.0 mmol/l corresponds to a blood glucose value of about 1.5 mmol/l. Secondly, the authors state that a blood glucose value of 2.0 mmol/l was aimed for and maintained for 60 minutes during the insulin infusion (although in 10 of the 13 patients blood glucose values fell lower than this). Surely this approach will tend to skew the results in favour of finding the glucose threshold of 2.0 mmol/l? In our earlier and similar study¹ in both subjects with diabetes and those without (a point which Dr Pramming and his colleagues omit to point out) a "threshold" for changes in the electroencephalogram and visual evoked responses was found to be a plasma glucose concentration of 2.6 mmol/l.

The finding of no correlation between threshold and haemoglobin A_{1c} values may well be a result of a type 2 error. Studies with animals rendered chronically hyperglycaemic show a reduction in the number of glucose transporters at the blood-brain barrier,² with a reduction in the maximum transport capacity for glucose.³ At normoglycaemia glucose transport across the blood-brain barrier is not rate limiting for cerebral glucose metabolism; if the number of glucose transporters is reduced, however, it could become so. This may explain why some diabetics have symptoms of