are not itemised and not for debate may drive industrial support elsewhere in Europe and to other countries.

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Deciding whether to be a doctor

SIR,—I agree with M J Kelly's views that sixth form students need expert help in deciding whether to embark on a career in medicine.¹ For the past two years I have run a course at a large tertiary college with the specific aim of educating would be medical students about the life doctors lead so that they can make an informed choice about their future career.

The course runs for two hours a week over 10 weeks and includes information about courses, postgraduate specialist training, the nitty gritty of doctors' daily work, and interview technique with plenty of time for discussion. I include half hour individual sessions for students, aimed particularly at helping them to evaluate whether they really do want to be a doctor. The students greatly appreciate the frank discussion and game techniques that I use to get the point across.

Of 28 students whom I have seen, five subsequently decided to pursue another degree course. They are all bright, most expecting to get AAA or ABB grades at A level, but most have little idea of what doctors do apart from what they have seen on television programmes. They usually want to be surgeons, none wanting to be general practitioners, and they have no idea of the huge range of careers within medicine. I encourage them to get work experience—for example, in a hospital or old people's home—and to talk to their general practitioner. The college also runs a pre-health course, which includes first aid training.

I hope to engender in students the confidence and belief that they have chosen the right career for the right reasons and not because of parental and teachers' pressure, glamorous fantasies, or lack of information about alternative professions that may provide them with the same satisfaction. It is wrong that so many of our young doctors become demoralised and angry and regret their choice of career.² It is not, however, surprising in view of the way many bright students are swept along by a tide of other people's enthusiasm and their own ignorance. Medicine is a wonderful, varied, and exciting career also full of heartache and frustration. It is our duty to educate our future colleagues and let realism prevail.

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1 Kelly MJ. Seeing for themselves. *BMJ* 1991;303:1598-600. (21-28 December.)

2 Parker DF. Demoralised doctors. *BMJ* 1990;300:56-7.

SIR,—M J Kelly has taken an imaginative approach in helping potential medical students to acquire insight into medical school and medical practice.¹ His comment on the approach of teachers and careers advisers in schools is right; in my experience they have little idea of the demands of medicine. The fault, however, is not just on the side of the schools, for the medical schools are far from blameless.

Medical schools need to exert more authority in two areas: the selection process for medical students needs overhauling, and a firmer line on weeding out those who are misfits is needed. As the

person responsible for the preregistration year in this medical school, I know that consultants are concerned that some graduates have difficulty in completing their year as a house officer. These doctors' undergraduate records often show the signs of impending disaster. The arguments for their continuing the course are as Kelly outlined; when they are challenged to account for their poor performance they give many reasons, but how seriously is their commitment to medicine questioned?

I have doubts about the adequacy of the current system of selection for medical school. A considerable financial investment is made to educate a doctor. Is a 10 minute interview, or none at all, an adequate means of deciding who should benefit from this investment? The procedure needs to be more rigorous and professional. Roberts and Porter called for a change in the selection process.² Potential recruits to the armed services and civil service and potential national airline pilots undergo a comprehensive selection process.

Students who find their motivation to pursue a medical career wanting may find it difficult to express their fears. This may be reflected in poor reports. Students must be encouraged to seek advice; a genuine doubt about a future in medicine needs to be handled with understanding. Student counsellors, and interested members of staff, have much to offer. Students should know that such advice is available and easily accessible.

Let us ensure that those we select are of the required standard, intellectually and emotionally.

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1 Kelly MJ. Seeing for themselves. *BMJ* 1991;303:1598-600. (21-28 December.)

2 Roberts GD, Porter AMW. Medical student selection—time for change: discussion paper. *J R Soc Med* 1989;82:289-91.

High potency factor VIII concentrates

SIR,—I am responding on behalf of the United Kingdom Haemophilia Centre Directors' Organisation to John D Cash's article on high potency factor VIII concentrates.¹ The article has been quoted by several purchasing authorities as evidence for lack of benefit from high purity factor VIII. Such a view is an oversimplification. Presently, most factor VIII used in the United Kingdom is of intermediate purity and is prepared, mainly by NHS fractionation laboratories, from voluntary donors. It has been in use since 1985 and found to be efficacious and safe from viral infection. Thus, continuing its use while newer products are being introduced and evaluated seems reasonable.

High purity factor VIII, free from extraneous protein, is both appropriate and desirable. Nevertheless, it should be introduced gradually and, as with any new therapeutic substance, monitored for safety and efficacy.

In 1990 the United Kingdom Haemophilia Centre Directors' Organisation issued recommendations for the treatment of haemophilia and identified certain groups that might benefit from high purity factor VIII. Firstly, patients receiving intermediate purity products who develop an allergic reaction should be changed to a high purity product; this is consistent with Cash's view.¹ Others include patients undergoing major surgery or receiving treatment for the first time. A high purity product provides the haemostatic dose in a smaller volume and is of particular benefit to patients with poor venous access and children. Most patients treated for the first time are children. We accept, however, that any new treatment should be of proved safety in adults before being given to children. Therefore, a paediatric haemophilia working party has been established to

address this issue and to plan prospective trials. These trials will also incorporate regimens for planned prophylaxis and an appraisal of the incidence of factor VIII antibodies. Concern has been expressed that treatment with monoclonally derived high purity products is associated with an increased incidence of inhibitors.^{2,4}

There remains the question whether high purity factor VIII prevents down regulation of the immune system. Evidence of benefit continues to accumulate, as indicated recently by de Biasi *et al.*⁵ Evans *et al.* have shown preservation of the immune system in patients treated with only one product of intermediate purity.⁶ If a sustained defect in the immune system is evident, however, it seems reasonable to change to treatment with a high purity product, again with careful clinical and laboratory evaluation.

At present Scotland and Northern Ireland are introducing an alternative high purity product for all patients. The product will be fractionated according to the technology of Burnouf *et al.*⁷ It will be administered within prospective clinical trials. Thus the place of high purity factor VIII is emerging and, provided it proves to be satisfactory on scientific evaluation, it will attain its rightful place in the treatment of haemophilia within a short time.

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1 Cash JD. High potency factor VIII concentrates: value not proved? *BMJ* 1991;303:633-4. (14 September.)

2 Bell BA, Kurczynski EM, Bergman G. Inhibitors to monoclonal antibody purified factor VIII. *Lancet* 1990;336:638.

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4 Montoro JB, Rodriguez S, Altisent C, Tusell JM. Transient factor VIII inhibitor and treatment with monoclonal antibody-purified factor VIII. *Lancet* 1991;337:1222.

5 de Biasi R, Rocino A, Miraglia E, Mastrullo L, Quirino AA. The impact of a very high purity factor VIII concentrate on the immune system of human immunodeficiency virus-infected haemophiliacs: a randomized, prospective, two-year comparison with an intermediate purity concentrate. *Blood* 1991;

6 Evans JA, Pasi JK, Williams MD, Hill FGH. Consistently normal CD4+, CD8+ levels in haemophilic boys only treated with a virally safe factor VIII concentrate (BPL 8Y). *Br J Haematol* 1991;79:457-61.

7 Burnouf T, Burnouf-Radosevich M, Huart JJ, Goudemand M. A highly purified factor VIII:c concentrate prepared from cryoprecipitate by ion exchange chromatography. *Vox Sang* 1991; 60:8-15.

Impact resistance of drinking glasses

SIR,—J P Shepherd and colleagues' letter on the impact resistance of drinking glasses has received considerable publicity in the national press.¹ Ravenhead does not question the accuracy of the experiments, but the conclusions reached are not based on fact.

We do not agree that the drinking glasses used in attacks are usually intact, nor have we found police records to support this statement. If this is the case we find it difficult to understand how lacerations occur. We believe that glass used in "glassing" attacks, whether drinking glasses or bottles are used, is first broken to produce lethal dagger-like spikes. We agree that tempered glassware, if properly tempered, can be stronger than stress free, normal glassware, but this is only in its new, unused condition. Within hours of first being used in a busy pub the strength of tempered glassware deteriorates rapidly and it can become unstable. This is due to surface abrasion, which occurs when it comes into contact with other objects—for example, other glasses and cutlery.

We have yet to find a tempered glass that

fragments on breaking in the manner described. Certainly the base, the thickest part, does fragment when a glass breaks, but this is not so with the thin side wall, which either remains intact or breaks into pieces with "razor blade" edges.

Interestingly, the French claim only that their glass is three times stronger than a normal, stress free glass; we dispute this figure, let alone Shepherd and colleagues' claim that it is six times stronger. Breaking a used tempered glass does not present a problem to an assailant, and the same jagged shards characteristic of normal glassware on breakage are produced.

The authors do not mention the instability of tempered glass, presumably because they are ignorant of the process entailed.² The technique of tempering glassware with a thick cross section—for example, a car windscreen—is well known, but the tempering of thin walled drinking ware is fraught with dangers, which the authors overlook. No manufacturer produces tempered tankards, for a good reason: safe tempering calls for uniformity of wall thickness throughout the body of the product.¹

Finally, from their experiments we fail to see how the authors conclude that tempered glassware is indistinguishable from annealed glassware to the drinking public. This statement is based on opinion; all the evidence suggests that the French product tends to discolour with use.

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- 1 Shepherd JP, Kidner G, Huggett R. Impact resistance of drinking glasses. *BMJ* 1991;303:1330. (23 November.)
- 2 Porfido N. Is your tempered ware really shock resistant? *Glass Industry* 1991 June:18.
- 3 De Grave R. Thermal toughening of glass by air quenching. *Glass* 1985 Nov:423-4.

AUTHORS' REPLY.—We are surprised that there is no objective evidence in D Grimes's letter or the articles he cites for the assertions he makes. He does not report any steps that his company has taken to make bar glasses less likely to break or less likely to injure people when they do break. Safety is an important issue: 43 patients with facial injury due to glass were recently identified over two weekends in five accident and emergency departments¹ and 208 hand injuries due to glass were identified during three months by members of the British Society for Surgery of the Hand.²

Although the term "glassing" implies deliberate breaking of a glass before its use as a weapon, most of the patients in our survey reported that unbroken glasses had simply been thrown or had been picked up and thrust whole at them. On impact the glasses had fractured, causing injury. It is on the basis of this finding that we believe that making glasses more resistant to impact is likely to prevent injury. Tempering also increases the tendency for glass to break at right angles to its surface, giving rise to relatively blunt edged fragments.

In relation to durability and weakening "within hours," research showed that two designs of tumblers, when tempered, survived up to 25 times longer in a busy office than non-tempered tumblers of identical design that were exposed to the same number of cycles of use.³ Glass manufacturers such as Ravenhead who have not developed the production of toughened drinking glasses have also claimed that toughened glasses can cause injury when they disintegrate spontaneously. None of the patients in our study reported injury in this way.

We remain convinced of the need for a code of practice in relation to the safety of glass. At present there is nothing to prevent manufacturers producing thinner and thinner glasses and, indeed, every commercial incentive to make glasses as friable as possible. The fact that in the United Kingdom the licensed victuallers' trade gets through 100 million

glasses annually attests to the limited life of most pub glasses.

Tempering will never completely eliminate injuries due to glass, but it substantially reduces the risk of breakage. As De Grave states in the conclusion of a paper cited by Grimes, "In fact, toughening has provided an opportunity for the production of high resistance tumblers, dishes, plates, bowls, casseroles, etc, of great variety of shapes, and colours which are now normally used by everyone."⁴

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- 1 Shepherd JP, Price M, Shenfine P. Glass abuse and urban licensed premises. *J R Soc Med* 1990;83:276-7.
- 2 Evans DM. Hand injuries due to glass. *J Hand Surg [Br]* 1987;123:284.
- 3 Nakamura H. Life of tumblers. In: Kunugi M, Tashiro M, Saga N, eds. *Tenth international congress on glass*. Tokyo: Ceramic Society of Japan, 1974:10.42-9.
- 4 De Grave R. Thermal toughening of glass by air quenching. *Glass* 1985 Nov:423-4.

Acute angle closure glaucoma associated with nebulised ipratropium bromide and salbutamol

SIR.—Peter Shah and colleagues report that nebulised ipratropium bromide and salbutamol may, if allowed into the eyes, rarely lead to acute angle closure glaucoma in susceptible patients.¹ Such reports are not unexpected, given the potentially additive effects of each drug on the eye. What is important, however, is that the eyes are protected by a well fitting face mask or the addition of a T piece extension to the nebuliser mouthpiece and, in susceptible patients, goggles.

In view of the documented benefits of the combination of ipratropium and a β_2 agonist given by nebulisation in patients with moderate to severe acute and chronic airways obstruction,^{2,4} ocular protection is to be preferred to advice not to use these valuable medicines in combination.

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- 1 Shah P, Dhurjon L, Metcalfe T, Gibson JM. Acute angle closure glaucoma associated with nebulised ipratropium bromide and salbutamol. *BMJ* 1992;304:40-1. (4 January.)
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- 3 Brown IG, Chan CS, Kelly CA, Dent AG, Zimmerman PV. Assessment of the clinical usefulness of nebulised ipratropium bromide in patients with chronic airflow limitation. *Thorax* 1984;39:272-6.
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Diazoxide no longer marketed

SIR.—Diazoxide is used primarily to manage patients with hypoglycaemia resulting from overproduction of insulin. It has a unique and invaluable role. Simple oral treatment controls symptoms in most patients. It can be used for short term control of hypoglycaemia during investigation or long term management when surgery is either inappropriate or has failed. No comparable drug is available.

We were considerably alarmed when we dis-

covered that the manufacturers had made a commercial decision to stop marketing diazoxide tablets. When we asked how such a decision could be made without consultation we were informed that consultation with endocrinologists had taken place. We have not yet been able to locate those consulted.

We invite other would be users of the drug to write to the suppliers, Allen and Hanburys Limited, Stockley Park West, Uxbridge, Middlesex UB11 1BT, requesting that the drug once more be supplied as tablets.

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We sent this letter to the manufacturers of diazoxide, who replied as follows:

SIR.—The production of medicines is subject to increasingly stringent specifications on safety and quality. This is entirely appropriate but can also cause difficulties for manufacturers, particularly when a drug is used by only a few patients, requiring infrequent, low volume production. It was for these reasons that we decided to stop marketing diazoxide (Eudemine) tablets on 9 August last year.

We were aware that there would be a few people who had taken diazoxide for some years and would require continued supply. We therefore guaranteed to make diazoxide powder available on a named patient basis within 24 hours of request, or even sooner in emergencies. The decision to supply the powder free reflects our concern for the patients and certainly does not support Sonksen and colleagues' view that this was a commercial decision.

We continue to seek an alternative supplier and are in discussion with several other manufacturers who may be able to meet demand. In the mean time we will continue to supply diazoxide powder on request: we have responded to 103 requests for named patient supply since 9 August last year.

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Bureaucratic record?

SIR.—Only 17 copies of a curriculum vitae requested by St George's Hospital?¹ Chickenfeed. The *Lancet* of 6 October 1923 carried an advertisement for an honorary assistant surgeon at Cardiff Royal Infirmary, indicating that "Fifty copies of application and testimonials should be forwarded to . . . Leonard D Rea, secretary."² As usual, Wales leads the way.

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- 1 Barry M. Bureaucratic record? *BMJ* 1992;304:123. (11 January.)
- 2 Advertisement of post at Cardiff Royal Infirmary, ear, nose, and throat department. *Lancet* 1923;105:210.