

## LETTERS TO THE EDITOR

### Cyanoacrylate adhesive mistaken for ear drops

EDITOR,—We read with interest the paper of McLean<sup>1</sup> and wish to report that although there have been a several published reports of accidental instillation of cyanoacrylate adhesive into patients' eyes, this potential hazard also applies to inadvertent application to the ear.

#### CASE REPORT

A 35 year old man presented to the accident and emergency department, having mistakenly instilled approximately four drops of cyanoacrylate adhesive ("Superattak") into his left ear from a bottle that he had assumed contained ear drops ("Otex"). Following the administration he felt an immediate burning sensation in the ear and an associated loss of hearing. On examination his left external auditory canal was completely occluded with the hardened glue. This was successfully removed without recourse to analgesia, but it was a lengthy procedure. Subsequent examination including formal audiometry of the affected ear was normal, and the patient was discharged with advice. To date there have been no adverse sequelae.

#### COMMENT

Cyanoacrylate adhesive undergoes a rapid anionic polymerisation in the presence of basic substances and therefore forms a strong bond in seconds.<sup>2</sup> This can be particularly hazardous in areas such as the eyes and ears following accidental instillation. Figure 1 shows the similarities between the ear drop and adhesive containers. The adhesive containers do carry warnings about the risk of skin and eye contact, but we suggest that measures should also be taken by the manu-

facturers to alter the shape or type of adhesive containers on the market, or that they should have a childproof type of cap in an effort to minimise the risk of this preventable hazard.

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- 1 McLean CJ. Ocular superglue injury. J Accid Emerg 1997;14:40-1.
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### Local infections at cannula site

EDITOR,—Most patients admitted to hospital from the accident and emergency (A&E) department have a peripheral venous cannula sited for administration of fluids and medications. In our hospital all inpatients have a transparent polyurethane film (OpSite IV3000) used as the intravenous cannula dressing, whereas in the A&E department an elastic adhesive tape is used to secure cannulae. This elastic adhesive tape is usually left in place until the cannula is resited or removed. Cannula related septicaemias are the most frequent life threatening complication of intravenous therapy. Most cannula related septicaemias begin as local infections of the cannula site.<sup>2</sup>

We compared local infections of the cannula site with elastic adhesive tape and OpSite IV3000. Over a two week period all patients cannulated in the A&E department were randomised to have elastic adhesive tape or OpSite IV3000. In all cases the skin was cleaned first with 70% isopropyl alcohol. All

the discharged patients had the dressing and cannula removed before leaving the department. Every patient, including those discharged, had their cannula site inspected two days following insertion of the cannula. Eighty five patients were treated with elastic adhesive tape and 63 with OpSite IV3000. Of the 85 patients treated with elastic adhesive tape, 49 were admitted and 36 were discharged from the A&E department. Of the 63 patients treated with OpSite IV3000, 43 were admitted and 20 were discharged from the A&E department. Two of the patients treated with elastic adhesive tape admitted to hospital developed phlebitis. None of the patients treated with OpSite IV3000 developed phlebitis. The diagnosis of phlebitis included two or more of the following symptoms or signs: tenderness, erythema, swelling, purulence, or a palpable venous cord.<sup>3</sup> No patients treated by either method developed cannula related infections as diagnosed by a positive culture of the cannula site, although the above two patients were given antibiotics following the diagnosis of phlebitis.

OpSite IV3000 is highly permeable to air and moisture vapour and therefore produces significantly lower levels of skin colonisation when compared to other intravenous dressings.<sup>4</sup> It is also transparent, allowing inspection of the cannula site, and provides better security of cannula fixation, and easier application and removal.<sup>5</sup> However, it is four times more expensive than elastic adhesive tape currently used by our department. We would suggest that OpSite IV3000 may be useful in A&E patients who are admitted. Its use in all A&E patients is probably not justified.

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### How safe are schools?

EDITOR,—I think Simon Carley and Polly Terry<sup>1</sup> have misinterpreted conclusions in the paper by Maitra and Sweeney.<sup>2</sup> Nowhere do the authors claim that injuries incurred by children at school are more serious than those they incur in public places. The point of the short analysis of injury severity is to demonstrate that the school injuries are no less severe—that is, a very similar percentage of



Figure 1 The adhesive (left) and the ear drop containers (right) are very similar

both groups of injuries resulted in a fracture. It is only fractures that were analysed further, and there are two reasons for this. First, especially with children, most accidents causing fractures do result in attendance at an A&E department. Second, case definition is usually straightforward and reproducible. Maitra and Sweeney could thus measure injury rates again after the introduction of a local injury prevention programme and have confidence in their evaluation method. The All Wales Injury Surveillance System (AWISS) is a prime example of this method in action.

The difficult question of actual rates of injury per child per hour at school or in public places has not been addressed by this study. First, the study was based at one hospital, and neighbouring A&E department records were not accessed. Complete case ascertainment was therefore not possible—the Northern Region has no equivalent to AWISS. It would also be necessary to quantify the relative amounts of time spent by the study population in the various locations. This is useful for certain specific activities, for example, number of miles cycled per cyclist fatality, but is not required in this setting.

The message from this study is that accidents at school generate a significant number of injuries (567 attendances at the Royal Victoria Infirmary in six months), and that these are significant injuries (127 fractures). Therefore, in Newcastle at least, schools are a suitable target for injury prevention initiatives.

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- 1 Carly SD, Terry P. Childhood accidents. *J Accid Emerg Med* 1997;14:58.
- 2 Maitra AK, Sweeney G. Are schools safer for children than public places? *J Accid Emerg Med* 1996;13:196-7.

#### British poison centres' advice concerning dothiepin overdosage in young children

EDITOR,—Two young children aged 1 year 11 months and 2 years 10 months presented with a history of being found with their mother's 75 mg dothiepin tablets 45 minutes earlier and 24 tablets were missing. Both children were well. The National Poisons Information Service at Guy's and St Thomas' were consulted and advised that the children's stomachs should be washed out under general anaesthetic and repeated doses of activated charcoal be given. This was done and large quantities of chewed tablets were recovered.

In March 1996, a telephone call was made to each of the six British Poisons Centres and up to date advice requested for such cases. The results are shown in table 1. There is agreement that at least one dose of charcoal appropriate for the child's age should be given, but advice concerning gastric lavage and multiple doses of charcoal varied. Activated charcoal has a proven role in reducing absorption of tricyclics.<sup>1</sup> Multiple doses of

charcoal can slightly reduce the half life of tricyclics,<sup>2</sup> but there is little evidence that they are effective in toxic ingestions of tricyclics. The effectiveness of gastric decontamination in general is questionable<sup>3</sup> and dangerous rhythm disturbances can be precipitated by lavage.

Adult series have shown that only 22% of ingested tricyclics were recovered by gastric lavage.<sup>4</sup> No published data are available on the effectiveness of gastric lavage of tricyclics in children. Therefore it is not surprising that the Poison Centres interpret the limited data on multiple doses of charcoal and lavage in different ways and do not give uniform advice. However, the clinician working in accident and emergency must wonder whether it would be preferable for the Poison Centres to have a consensus of opinion on the management of such cases.

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- 1 Crome P, Dowling S, Braithwaite R, Masters J, Walkey R. Effect of activated charcoal on absorption of nortriptyline. *Lancet* 1977;ii:1203-5.
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#### Homeless people and A&E

EDITOR,—Dr Barnes and his colleagues ought to be congratulated on bringing into focus the A&E care of homeless patients.<sup>1</sup> They conclude that there was no significant increase in the use of A&E services by this group during an eight year period. However, the more important issue here is not the total use of the service by the homeless but the differing pattern of care required by the homeless compared to home based patients.

A study<sup>2</sup> which compared homeless with home based patients attending the A&E department of a teaching hospital in Tyneside found that these patients were predominantly male, unemployed, and less likely to have a GP, had a history of excessive alcohol consumption and involvement with police, and suffered various acute and chronic/minor medical conditions, many of which could have been dealt with by a GP but which also required short term medical admissions. Psychiatric consultations were common but admission to a psychiatric ward rare.

The problems of the homeless should be addressed not in terms of their numbers but in terms of their differing and complex needs, faced both by the secondary and the primary care sector.

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- 1 Earnshaw SM, Barnes RC, Brown R. Trends in the use of accident and emergency services by the homeless on the Wirral. *J Accid Emerg Med* 1996;13:334-6.
- 2 Maitra AK. Dealing with the disadvantaged—single homeless, are we doing enough? *Public Health* 1982;96:141-4.

#### The authors reply:

We acknowledge the important points made by Mr Maitra.

The complex needs of this disadvantaged group were evident in our sample of A&E attenders on the Wirral and in a similar piece of work undertaken at the Royal Liverpool University Hospital A&E department. We also had direct experience of managing a subgroup of the homeless who presented with psychological problems. They were seen in the A&E department or the psychiatric emergency clinics.

Our study highlighted two important categories of homeless attenders. These were the repeat attenders and the "NAD" group. There was some inevitable overlap between the two categories and they tended to have the most complex needs. However, they were also the least likely to have these needs adequately addressed. They would represent a challenging group for further study.

From a psychiatric perspective, one potential important line of inquiry could be to look at the psychological processes going on during consultations. The powerful thoughts and feelings that are generated in both the professional and patient are likely to have an important bearing on the outcome of the consultation.

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#### Troponin T in patients with cardiac chest pain

EDITOR,—The use of dry chemistry systems for the rapid measurement of cardiac markers in the diagnosis of myocardial infarction has been advocated.<sup>1,2</sup> As part of a larger trial we looked at the practicality of using the TropT rapid assay system (Boehringer Mannheim UK, Sussex) in a busy accident and emergency department to assess levels of troponin T. Troponin T is a sensitive and specific marker of myocardial damage.<sup>3</sup>

The TropT system is designed to be used both in laboratories and in near patient testing situations. It consists of a plastic slide onto which 150 µl of blood are pipetted into an application well and the slide left for 20 minutes. After this time the reading zone is evaluated. A single line indicates a negative result, two lines indicate a positive result. The quoted sensitivity of the slide was < 0.2 ng/ml.

Forty one patients attending accident and emergency with cardiac chest pain suspected of having had a myocardial infarct were assessed using the TropT assay, the manufacturer's instructions being followed in the laboratory. Measurements were made at admission (0 hours), and at 4 and 12 hours after admission.

The following diagnoses were reached in the 41 patients tested: myocardial infarction by WHO criteria (19); angina (10); atrial fibrillation (2); transient ischaemic attacks (1); and non-cardiac chest pain (9).

Thirty nine patients tested negative with the TropT assay on admission and two tested positive

Table 1 Poisons centres management advice

Centre	SWO	Charcoal
No 1	Yes	Single dose
No 2	Yes (within 4 h)	Single dose
No 3	Yes (within 6 h)	Multiple doses
No 4	? (if problems with charcoal)	Single and ? Multiple doses
No 5	No	Single dose
No 6	Only within 1 h	Single dose