

bilateral slings. After three weeks physiotherapy was started with good return of shoulder movements. She had not been receiving treatment before the incident but was subsequently given sodium valproate in an appropriate dosage with no further recurrence of her epileptic fits.

**Case 2**—A 26 year old woman attended the accident and emergency department having been unable to close her mouth since waking. Clinically her jaw was dislocated and required reduction. The following year she presented on seven further occasions over two months with an identical history. On each occasion the dislocation was reduced successfully under sedation with intravenous diazepam. On the last occasion her mother remarked that she had often heard noises from her daughter's bedroom and on entering would find her jerking her arms and legs, each episode lasting about one minute before she fell asleep again. No evidence of incontinence or tongue biting was noticed, but she would be unable to close her mouth on regaining consciousness. An electroencephalogram was consistent with a diagnosis of epilepsy. Her convulsive seizures and associated dislocations of the jaw disappeared once she had acquired a therapeutic blood concentration of phenytoin.

**One other patient** with epilepsy, who was mentally handicapped, presented to the accident and emergency department with dislocations similar to those seen in case 1. She was found to have long standing unreduced bilateral anterior dislocations of the shoulder joints, which may well have been related to her fits.

### Comment

Posterior dislocation of the shoulder joint is the most common type of dislocation associated with epileptic seizures; it may be bilateral and associated with a fracture.<sup>1-4</sup> I have been able to find only one reference (a letter)<sup>5</sup> to anterior dislocation of the shoulder joint, either unilateral or bilateral, occurring during epileptic fits. I could not find any reference to dislocations of the temporomandibular joints complicating epileptic fits. Clinicians should be aware that these complications may occur or, indeed, be the presenting features of epilepsy itself.

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<sup>1</sup> Honner R. Bilateral posterior dislocation of shoulders. *Aust NZ J Surg* 1969;**38**:269-72.

<sup>2</sup> Shaw JL. Bilateral posterior fracture—dislocation of the shoulder and other trauma caused by convulsive seizures. *J Bone Joint Surg [Am]* 1971;**53**:1437-40.

<sup>3</sup> McLaughlin HL. Posterior dislocation of shoulder. *J Bone Joint Surg [Am]* 1952;**34**:584-90.

<sup>4</sup> Prillaman HA, Thompson RC Jr. Bilateral posterior fracture-dislocation of the shoulder. A case report. *J Bone Joint Surg [Am]* 1969;**51**:1627-30.

<sup>5</sup> Campbell AMG. Bilateral posterior dislocation of shoulders. *Br Med J* 1969;ii:822.

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## Accidental childhood poisoning with household products

Accidental poisoning in childhood remains an important reason for admission to hospital and an occasional cause of death. The introduction of child resistant containers for medicines has led to a reduction in such poisonings,<sup>1</sup> and there are currently moves to extend the use of child resistant containers to household products.<sup>2</sup> It would clearly be unwise to package every household product in this way, and to define which substances would be the best candidates for such safety packaging we surveyed children admitted to hospital.

### Patients, methods, and results

We studied the notes of all children aged under 5 admitted to hospital in Newcastle and South Glamorgan from 1974 to 1982 with a diagnosis of poisoning with a household product. The population of this age in the Newcastle catchment area was 29 100 and in South Glamorgan 27 000. Some children were also admitted to hospital in South Glamorgan from

outside the area. A total of 893 children were identified as having been poisoned, 439 from Newcastle and 380 from South Glamorgan with an additional 74 from elsewhere in south Wales. Thus one child in 597 in Newcastle and one in 639 in South Glamorgan were admitted to hospital with poisoning each year.

The table shows the major substances ingested and the proportion of cases with severe symptoms. These were defined as any symptoms other than transient ones such as coughing and spluttering or spontaneous vomiting. Of 89 children who were poisoned with bleach, none had more than transient perioral erythema or slight blistering. The duration of admission was noted in Newcastle: 380 children stayed in hospital for one day or less and only 14 stayed for four or more days. Of these 14, seven were detained in hospital for reasons other than the poisoning episode such as other medical problems or severe social problems highlighted by the admission.

### Substances ingested that caused severe symptoms

	No of cases	No (%) with serious complications
Turpentine, white spirit, or turpentine substitute	195	12 (6)
Paraffin	45	5 (11)
Alcohol	34	7 (21)
Paint remover	12	3 (25)
Sodium hydroxide (caustic soda)	10	8 (80)
Camphor oil	10	1 (10)
Resin hardener	3	1 (33)
Strong acids	2	1 (50)
Antifreeze	1	1 (100)
Soldering flux	2	2 (100)
Total	314	41 (13)

Substances that did not cause serious symptoms: bleach (89 cases), rat or mouse poison (53), disinfectant (43), perfume or after shave (43), insecticide (33), cleaning fluids (28), nail varnish remover (22), window cleaner (21), shampoo (17), slug pellets (malaldehyde) (13), paint (13), and petrol (12).

### Comment

In nine years in two major cities only 41 children had an episode of poisoning that caused serious symptoms, this being only 4.6% of the total number admitted to hospital poisoned with household products. These products fell into 10 different categories, one of which was alcohol. The remaining 95.4% of children did not develop serious symptoms, which confirms the report of Goulding *et al.*<sup>3</sup> There are two groups of substances that children ingest: those that are commonly taken but rarely cause harm, and those that are rarely ingested but produce serious symptoms. Of the first group, the only one for which we consider that child resistant containers should be used is turpentine (including turpentine substitute and white spirit). We believe that there is insufficient evidence of toxicity from ingestion of bleach to justify using child resistant containers for bleach. Paraffin is rarely ingested from a bottle, and child resistant containers would not therefore prevent many cases of poisoning. Of the less common substances taken, the strongly caustic materials—such as paint remover, sodium hydroxide (caustic soda), strong acids, and possibly soldering flux, resin hardener, antifreeze, and camphor oil—should be in child resistant containers. The solution to the problem of ingestion of alcohol among young children probably lies in education rather than child resistant containers. Interestingly, the duration of stay in hospital, which has often been taken to indicate the severity of the poisoning episode, may be misleading in half the children staying for four days or more.

<sup>1</sup> Lawson GR, Craft AW, Jackson RH. Changing pattern of poisoning in children in Newcastle, 1974-81. *Br Med J* 1983;**287**:15-7.

<sup>2</sup> House of Commons Official Report (*Hansard*). *Dangerous household products (child safety) packaging bill*. 1982 January 29;**16**:1158-66. (No 46.)

<sup>3</sup> Goulding R, Ashforth EK, Jenkins H. Household products and poisoning. *Br Med J* 1978;ii:286-7.

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