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**The Child Resistant Container:  
A Success and a Model for Accident Prevention**

The article in this issue by McIntire, et al.<sup>1</sup> documents the acceptance of child resistant containers by the general public. Consumer opinion has not heretofore been sampled; the attitudes of a standard metropolitan statistical area population are probably similar to the population at large. This study provides a necessary feedback to the continued development of a major program in accident prevention. The importance of this type of study is seen more clearly when its place in a major successful North American experiment in accident prevention is reviewed.

As contagious diseases waned, accidents emerged as the leading cause of death and disease in childhood, now accounting for nearly half of all morbidity and mortality.<sup>2</sup> Education has been thought of as the major tool to be used in accident prevention. Programs of education were begun in the prevention of accidental poisoning. Poison Control Centers have been leaders in the field of education since their inception in 1953. The third week in March has been designated Poison Prevention Week by the President of the United States to focus the educational message. Health workers in all fields have included poison prevention information in anticipatory guidance. These educational programs have led to a gradual decline of mortality from accident poisonings although morbidity continued unabated. Aspirin has been the chief indicator drug. In marked contrast to this slow decline, the use of safety closures led to a sharp drop in both morbidity and mortality, best seen with aspirin.

The safety closure or child resistant container is a simple inexpensive device which is added to daily living to perform a safety function. It also provides a constant reminder for the user to perform safely. The process of development of the use of these closures may be viewed as a model for other areas of accident prevention. This process has the following components:

- definition of the problem
- education of the public to the problem
- the development of or alteration in devices (or behaviorisms) used in daily living
- testing of the safety and efficacy of these alterations in small populations
- testing in larger or total populations
- testing of acceptance of the device
- development of optimum use patterns in daily life

This process can be discerned in many accident prevention programs, including automotive safety, boating safety, burns, falls, etc. The role of government is primarily in the areas of timing of implementation so that economic burdens are equitably distributed, and in enacting and enforcing appropriate legislation.

Safety closure development, as a major thrust in accident prevention, started with the interests and efforts of Jay Arena.<sup>3</sup> Through Dr. Arena's efforts, Plough, Inc. marketed an early but imperfect product. Several others were tried. Many closures were assessed and the one which seemed most promising, the Palm-N-Turn, was put to small population trials.<sup>4, 5</sup> In these studies, the incidence of poisoning by prescription drugs was diminished by 75 and 90 per cent respectively! As such information became available, the obvious sure beneficial impact on child health led to

lobbying for and ultimate passage of the Poison Prevention Act of 1970. This Act made population-wide use of safety packaging mandatory for aspirin in 1972 and prescription drugs in 1973. Other drugs and products must also be closed in child resistant containers. Statistics now available show that aspirin deaths dropped 50 per cent in the year following implementation. The magnitude of this change is made even more dramatic by the recognition that many aspirin deaths are the result of therapeutic misadventure rather than accidental poisonings. Data on all prescription drugs for the entire country are now becoming available through the National Clearinghouse for Poison Control Centers. Effects are not dramatic, but the 1974 statistics (the most recent) indicate a downward trend in poisoning due to prescription drugs.

The next step was to check on public attitude. With the study in this issue<sup>1</sup> we have the documentation of a surprisingly and reassuringly high level of acceptance. All ages are positively oriented. Even the elderly, who have the most difficulty using safety closures and whose use of them often is less likely to affect child safety, respond positively.

Manufacturers have developed several types of effective devices. The differences between these types in efficacy, acceptance, and ease of use is only now being assessed.

The greatest continuing need is the development of a flexible and considered pattern of use of safety closures in the health delivery system. We must optimize the value of these devices in our daily lives. As the writers of the federal law recognized, it is not sufficient to leave this solely to a mechanical response by the dispensers of medication. Questions to be asked at the time of prescribing, advising, or dispensing, by physicians, dentists, veterinarians, nurses, and pharmacists include:

1. Does this patient or a member of the patient's household require that a child resistant container be dispensed?
2. Does the patient know that a non-child resistant container may be requested? We must be ready to advise against such a request if it is medically inappropriate.

3. Is the request due to past difficulties in use?
4. Is the routine child resistant container used in the patient's community manageable by the patient or should an alternate type, or unit dose packaging, be utilized?
5. If a large supply of medication is prescribed for chronic disease and the patient will transfer a short term supply to another container, does a labeled small-child-resistant container need to be dispensed for that purpose?
6. Is the dispensed compound usually toxic to children (e.g. Lomotil® or a tricyclic antidepressant), so that particular emphasis on the importance of child resistant container needs to be made?
7. Is the patient capable of opening and closing the device and does he know how?

Answers to these questions involve professional decisions which impact the total quality of care. Practice patterns in medicine and pharmacy need to be reassessed if they do not lead to responses to these questions for each prescription. I am in agreement with the authors interpretation of the impact of this study on the request for exemptions to safety packaging. There must be clear reasons for such requests other than acceptability by the public.

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#### REFERENCES

1. McIntire, M. S. et al. Safety packaging—what does the public think? *Am. J. Public Health* 67:169-171, 1977.
2. Accident Facts 1976, National Safety Council, Chicago, Ill. p 8.
3. Arena, J. M. Safety closure caps. Safety measure for prevention of accidental drug poisoning in children. *JAMA*, 169:1188, 1959.
4. Breault, H. J. Five years with 5 million child resistant containers. *Clin. Toxicol.* 7:91, 1974.
5. Scherz, R. G. Child proofing the medicine bottle. *Lancet* 2:287, 1974.

### Editor's Report

The perspicacious reader who pursues the Table of Contents beyond the front cover will have noted two new features in this month's issue of the Journal: "Homage to the Anonymous Reviewer" and "Book Corner". They possess a format in common: they are lists.

The list of reviewers (referees or critics) consists of the 520 names of those who have reviewed one or more manuscripts submitted to the Journal since July, 1975. It does not contain the names of 17 Editorial Board members, past or present, who have done yeoman service during this period and who, presumably, are rewarded by the monthly appear-

ance of their names on the masthead of the editorial page. The Journal depends heavily on its legion of volunteer reviewers, and the least it can do is to acknowledge its debt from time to time.

The past few years have seen a flurry of controversy in various journals pro and con maintaining the anonymity of reviewers vis à vis authors and the anonymity of authors vis à vis reviewers.<sup>1-4</sup> For most of the past year, the manuscripts we receive have been forwarded to reviewers with the names of author(s) removed whenever this was feasible. Often it was not mechanically feasible, or the authors were