

Hazard  
(Edition No. 25)  
December 1995

Victorian Injury  
Surveillance System  
Monash University  
Accident Research Centre



VicHealth

# Translating injury surveillance to prevention: an update

As VISS is moving to a new system of data collection in 1996 it is timely to review our achievements over the past eight years. This edition of *Hazard* highlights some VISS success stories and outlines some of the challenges that face us in 1996 and beyond.

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## Summary

The first edition of *Hazard* was published in July 1988, the year in which the Victorian Injury Surveillance System was established. The quarterly publication of *Hazard* is one of the major methods VISS uses to disseminate information. The selection of topics for *Hazard* is based on the relative severity, frequency and the potential preventability of injury problems that emerge from analyses of VISS hospital emergency department presentations data and reference to other relevant data sources.

Each *Hazard* edition includes the findings from the data analysis on one

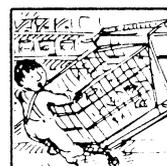
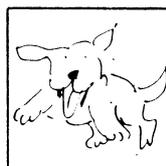
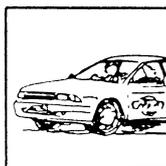
or more significant injury issues and a discussion of actions that need to be taken to reduce or eliminate the potential for injury.

As background to this (the 25th) edition of *Hazard*, progress on all the recommendations to reduce injuries made in *Hazard* was reviewed. The review not only covered follow-up action undertaken by VISS alone or in collaboration with other Monash University Accident Research Centre (MUARC) projects but also included significant action on VISS recommendations taken by other bodies. VISS intends to continuously update this review as an ongoing Working Report.

This edition of *Hazard* highlights some VISS success stories. It also focuses on injury issues where some

progress has been made by VISS and other bodies but where there is good potential for further gains. In these areas a modest increase in human and financial resources applied to the problem could be repaid by significant reductions in the number and/or the severity of injuries.

Enclosed in this edition is a client survey. In 1995 VISS received a small grant from the Victorian Health Promotion Foundation to support the implementation of findings from VISS data analyses and research. This grant included funds for a survey of VISS clients and potential clients on their data and other needs for progressing the recommendations for action published in *Hazard*.



## Introduction

The Victorian Injury Surveillance System (VISS) was established in 1988 to collect and analyse injury data from hospital emergency departments and to disseminate information for the purposes of injury prevention. VISS is currently funded by the Victorian Health Promotion Foundation.

The size and nature of the data collection has changed over the lifetime of VISS. It was initially a collection of child injuries reported through the emergency department of the Royal Children's Hospital under the directorship of Associate Professor Terry Nolan. MUARC took over VISS management in 1990 and developed the all age injury collection. By 1992 VISS had expanded to five hospitals on seven campuses.

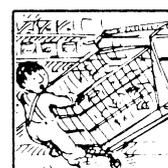
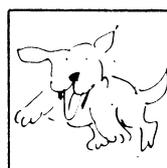
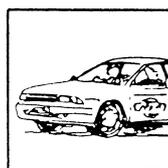
VISS is currently in transition from the manual collection of injury data in selected emergency departments to a statewide routine electronic collection using the National Minimum Dataset (Injury Surveillance).

VISS has also expanded to access data and information from a wider range of sources so that a more complete picture of injury issues is obtained. The other sources frequently accessed are the Australian Bureau of Statistics (ABS), the Coroner's Facilitation System (mortality) and the Victorian Inpatient Minimum Dataset.

There are currently 166,137 cases of injury on the VISS hospital emergency department database. VISS data are used to identify injury problems, support research and, most importantly, to underpin the development of injury prevention strategies and support their implementation and evaluation.

**Media coverage of injury issues in Hazard - 1995 Table 1**

Injury Issue	No. of media requests	Media coverage in 1995
Domestic violence	22	<b>Print:</b> AAP, Canberra Times, Herald Sun, IPA Review, Shepparton News, Sunday Herald Sun, Sydney Morning Herald, The Age, The Australian, The Independent Monthly, Warrnambool Standard, Waverley Gazette, Women's Day. <b>Radio:</b> ABC Sydney, SBS, Triple M <b>Television:</b> A Current Affair (Channel 9), GP (ABC TV)
Dog bites/attacks	12	<b>Print:</b> Fairfax Suburban Newspapers, Herald Sun, National Dog Magazine, Sunday Age, Sunday Herald Sun, Sterling Media <b>Television:</b> A Current Affair (Channel 9), Burke's Backyard (Channel 9)
Horse related injuries	8	<b>Print:</b> Herald Sun, Warrnambool Standard, Weekly Times <b>Radio:</b> Country Hour (ABC Radio) <b>Television:</b> Midday Show (Channel 9), Channel 9
Sports injuries	8	<b>Print:</b> Australian Golf Digest, Fairfax Newspaper Group, Herald Sun, Sunday Age, Sydney Morning Herald <b>Radio:</b> 3BA <b>Television:</b> Today Tonight (Channel 7)
Smoking related injuries	5	<b>Print:</b> AAP, Herald Sun, The Age <b>Radio:</b> 3MP, 5DN
In-line skating injuries	3	<b>Print:</b> Shepparton News <b>Television:</b> The Today Show (Channel 9), News Channel Pay TV
Escalator-related injuries	3	<b>Print:</b> Australian Doctor, Parents (Australian Parenting Magazine), Herald Sun
Home injuries	3	<b>Print:</b> The Age <b>Television:</b> Better Homes (Channel 7), Channel 7
Tractor-related injuries	2	<b>Print:</b> Herald Sun, Weekly Times <b>Radio:</b> The Country Hour (ABC radio), Country Roundup (Ace Network)
Shopping trolley injuries	2	<b>Print:</b> Herald Sun
Snake bites	2	<b>Print:</b> Sunday Herald Sun <b>Television:</b> Burke's Backyard
Farm injuries	2	<b>Print:</b> Warrnambool Standard, Weekly Times
Chainsaw-related injuries	1	<b>Print:</b> Gippsland Farmer



The latter is achieved by bringing hazards and potential solutions to the attention of the public and those who share the responsibility for safeguarding Victorians - government departments and statutory authorities, manufacturers, retailers, insurers, consumer and injury prevention groups, educators, researchers and specialist medical practitioners.

The media play an important and responsible role in reporting VISS data and often follow up the injury issues highlighted in *Hazard*. Table 1 shows the media attention given to injury issues in 1995 that are directly attributable to the publication of *Hazard*. The issue that excited the most media attention was domestic violence.

Over time, increasing emphasis has been given by VISS to the vigorous pursuit of the implementation of recommendations based on VISS data and available research.

VISS is a major program of Monash University Accident Research Centre (MUARC) and Dr Joan Ozanne-Smith, a Senior Research Fellow with MUARC, is the Director of VISS.

# Progress on selected issues

## Prevention of suicide - reducing car exhaust gas poisoning

[reported in *Hazard* 11, June 92; *Hazard* 20, Sept 94]

### Recommendations

- reduce access to the means of suicide, especially firearms and carbon monoxide gas [*Hazard* 11, June 92]
- design modifications to motor vehicles to impede common methods of carbon monoxide poisoning, eg. modify/re-design car exhaust systems to reduce or eliminate carbon monoxide emission, and mandate these design changes by incorporating them into the Australian Design Rules (ADRs) [*Hazard* 20, Sept 94]
- mandate, through changing ADRs, the incorporation of a sensing device in motor vehicles which monitors carbon monoxide levels and shuts down the motor when levels become life threatening [*Hazard* 20, Sept 94]
- improve motor engine designs and catalytic conversion techniques to complete the combustion process and thereby virtually eliminate carbon monoxide emissions [*Hazard* 20, Sept 94]
- improve the identification and treatment of those who are most at risk of suicide [*Hazard* 11, June 92]

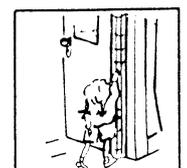
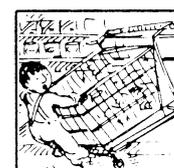
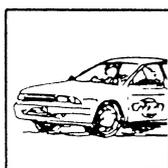
*Hazard* 20 highlighted that carbon monoxide poisoning from car exhausts was a major means of suicide in Victoria, ranking second to hanging/strangulation. In 1994 carbon monoxide gas was used by 98 Victorians and 447 Australians (source-ABS microfiche data) to commit suicide.

There is some research evidence which suggests that restricting access to the means of suicide can contribute to a fall in overall suicide rates. For example, a fall in suicides among women in Australia occurred when access to barbiturates was tightened in the late 1960's and in the U.K. when natural gas replaced coal gas. There is preliminary evidence that tighter firearm legislation in Victoria may be having a similar beneficial effect.

Cars built after 1986 have catalytic converters fitted which convert harmful carbon monoxide gas emissions to carbon dioxide gas. However, ongoing surveillance of the trend in suicides in Victoria and Australia by VISS shows no clear evidence of a decline in the proportion of suicides from carbon monoxide poisoning in recent times. In fact, Victorian Inpatient Morbidity data indicate that hospital admissions for carbon monoxide suicide attempts have steadily increased from 15 in 1989-90 to 56 in 1993-94.

Information from the Victorian Institute of Forensic Medicine also confirms that gassings are still occurring in post-1986 vehicles, probably because catalytic converters do not work efficiently at a cold start.

VISS therefore recommended the consideration of other design



modifications to cars to make carbon monoxide emissions a less accessible means of suicide. One intervention, a carbon monoxide sensing device which turns off the engine when the carbon monoxide reaches a dangerous level, has been assessed as cost effective in terms of lives saved. VISS also made suggestions for engineered design changes to car exhaust systems and these have been sent to experts in the field for comment.

VISS circulated copies of *Hazard 20*, which highlights the problem and possible solutions, to senior staff in car manufacturing companies, automotive bodies, government departments of transport, engineering academics and members of the various suicide prevention working parties that have been set up by government and other bodies. In December 1995 updated and comprehensive information was sent to these and other interested organisations seeking their co-operation and advice on how to progress action on the issue.

The national arm of the Australian Medical Association (AMA) has also publicly stated its interest in pursuing this suicide prevention initiative. In 1995 the AMA wrote to Members of Parliament and automotive manufacturers urging action and the AMA's Ethics, Science and Social Issues Committee and policy officer intend to pursue this matter in early 1996.

VISS has provided information on its activities to the AMA and offered to support the AMA's efforts to restrict access to the means of suicide. In 1996 VISS will continue to communicate and co-operate with the AMA on this issue.

In late 1995 VISS established contact with the Commonwealth Inter-departmental Working Group on

Youth Suicide, comprising the Commonwealth Department of Human Services and Health, the Attorney General's Department and the Commonwealth Department of Transport, and the Youth Suicide Prevention Advisory Group, which has also been set up by the Commonwealth Department of Human Services and Health.

The latter has been established to provide the Commonwealth with expert and consumer advice on youth suicide prevention activity. MUARC (through action by VISS) has been invited to be represented on a working group of this committee which will explore issues around access to the means of suicide and possible options for a national project or legislative activities.

Awareness raising among health and injury professionals has also been part of the VISS implementation agenda. Information on the use of carbon monoxide poisoning as a common means of suicide was a major component of a paper presented at the 1994 Public Health Association (PHA) Conference - 'Non-traffic motor vehicle injury' (Routley V.). Posters on the topic have been accepted for the Third International Conference on Injury Prevention and Control to be held in Melbourne in February 1996 and the associated Fourth International Conference on Product Safety Research.

**The challenge**

The prevention of suicides is a complex task and restriction of access to the means of suicide is one intervention where there appears to be good potential to save lives. Since 1991 suicides have surpassed motor vehicle traffic accidents as the major cause of injury deaths in Australia

(Harrison & Cripps 1994; Harrison & Dolinis 1995). During 1996 VISS will step up its efforts to bring together a coalition of interested parties to push for action on the problem of car exhaust gassings and pursue the opportunities afforded to progress this issue through its representative on the working group of the Commonwealth Youth Suicide Prevention Advisory Group.

**Scalds prevention - hot drinks**

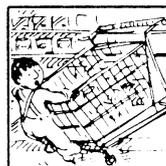
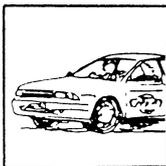
[reported in *Hazard 3*, June 1989; *Hazard 11*, June 92, *Hazard 12* September 1992]

**Recommendations-hot drinks**

- develop new designs for cups, mugs, some electric kettles and coffee makers which incorporate the use of heavier material and a lower centre of gravity to prevent tipping over [*Hazard 3*, June 1989]
- introduce a spill-resistant mug onto the Australian market [*Hazard 12*, Sept 92]
- educate carers to keep hot drinks out of reach of children and to use placemats instead of tablecloths [*Hazard 12*, Sept 92]
- design kitchens to eliminate dangerous pathways between key work areas, and kitchen benches with a rounded lip to catch spills [*Hazard 12*, Sept 92]

**Follow-up action**

- media: *Herald Sun* 1992, *Montage* April 1994, *Bayside Times* April 1995, *Colac Herald* June 1995
- information requests: 18 general scalds requests, including two regarding spill-resistant mugs



## Preventing hot drink scalds - spill resistant mugs

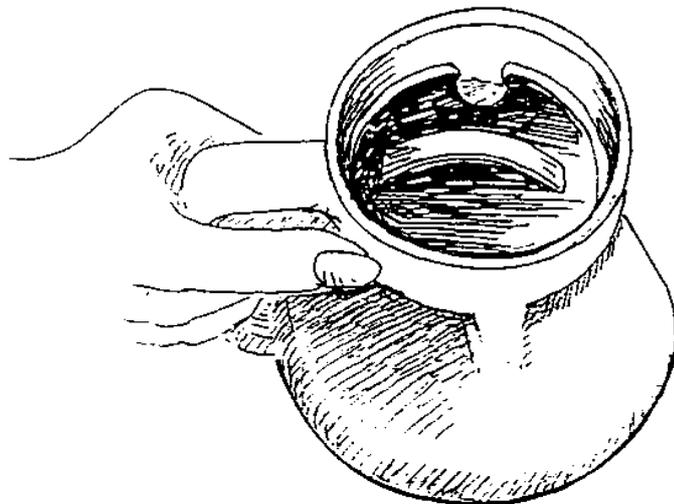
In 1992 VISS identified that the major cause of scald injuries to children was hot drinks being pulled or knocked onto young children. An updated analysis of all cases of child scalds on the VISS database to June 1995 (Table 2) reveals that this is still the case, 39% of scald injuries to children aged under 15 years are tea and coffee scalds.

For this reason VISS has concentrated much of its efforts on getting an attractive and well designed spill resistant tea/coffee mug onto the Australian market. The availability of a safe, attractive spill-resistant mug would facilitate the promotion of this countermeasure to child scalds to parents and carers of young children. It is especially important to safeguard one to two year olds as they are the highest risk group for hot drink scalds.

The spill resistant mug was first identified as a promising countermeasure to child scalds in *Hazard 12* (Sept 1992). As shown in the accompanying sketch, VISS considers

### Spill-resistant mug

Figure 1



the essential features of a safe spill resistant mug to be a narrow mouth, a wide, high friction base for maximum stability and a sip-through lid which stays on (with minimum spillage) when the mug is in use or tipped over.

As a first step, VISS collected samples of spill resistant mugs from companies in Australia and the USA where the use of this mug is promoted to coffee drinking commuters (not a practice we want to encourage among Australian drivers!).

All of the products that were assessed had some of the design characteristics required but none appeared ideal, for example, they had a wide base but no lid or had the safety features but were too large, too ugly or too expensive.

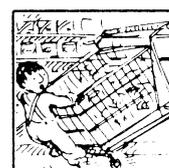
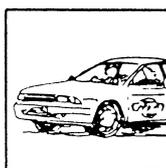
VISS subsequently approached a number of Australian design and mug manufacturing companies who were all very helpful but their ultimate response was not encouraging. The cost of developing prototypes and tooling up for production appears prohibitive because of the small volume domestic market. NSW Health experienced a similar reaction from the cup and mug manufacturers they approached.

VISS also followed up a mug design that was recently patented in the USA. An interesting design feature is that the mug can only be used if the lid is in place. The US health product company that sought the patent is currently at the stage of seeking finance for tooling for production. VISS has supplied contacts for the manufacturer to follow up and will meet the designer for discussions in February 1996.

## Scald injuries to children aged <15 years

Table 2

Mechanism factor	N	%
hot drinks - tea, coffee	672	39
hot water - cooking	372	21
hot water - bath, tap, shower	241	14
hot water - other	104	6
cooking oil, fat	89	5
hot water - n/s	88	5
soup, gravy	81	4
other	103	6
<b>Total</b>	<b>1750</b>	<b>100%</b>
<i>VISS data: RCH, WH, PANCH 1989-93, LRH 4 years July 1991 to June 1995. Update of table in Hazard 12 September 1992.</i>		



Another avenue of investigation that was implemented concurrently was a field assessment of consumer attitude to a spill-resistant mug. In 1995 the 7 Eleven spill-resistant mug was market tested for VISS in a research project conducted by Carmelo Caputo, Peter Liodakis, Vicki Psihogios and Livia Rivera, students of Monash University Medical School. This project examined the effectiveness and acceptability of the spill resistant mug (donated by 7 Eleven) among a group of 50 family day care workers employed by the City of Dandenong Council.

The researchers reported that the caregivers responded positively. The product was found to be acceptable and convenient to use but the researchers recommended that awareness raising education on scalds prevention should accompany its introduction. The caregivers suggested a number of changes in terms of size, shape and material to improve the mug's consumer appeal and safety.

These research findings were used to refine VISS design specifications for a spill resistant mug. VISS recently interested a South Australian mug and lid manufacturing company in the design and, possibly, the manufacture of the product. The company is currently engaged in exploring the best design, in terms of effectiveness and aesthetics. Their first concept sketches will be submitted to VISS in January 1996.

The issue was raised nationally in a paper presented to the First National Conference on Injury Prevention and Control held in Sydney in 1995 (Commonwealth Department of Human services and Health 1995) and a paper on the research underpinning these developments has

been accepted for presentation to the Fourth International Conference on Product Safety Research to be held in Canberra in February 1996.

A VISS staff member is also coordinating the Spill-Resistant Mug Working Party of the Victorian Prevention of Child Injury Committee (established by the Department of Health and Community Services).

**The challenge**

The recent progress on the development of the design and prototype of a spill-resistant mug will influence the steps that will be taken in 1996. VISS intends to approach potential sponsors if the prototype design satisfies VISS specifications. Kidsafe has indicated a strong interest in assisting in marketing the product when it becomes available.

More than three years have elapsed since VISS identified scalds from cups of tea and coffee as the major risk for thermal injury among young children and recommended the development of an acceptable spill resistant mug. In this period three hundred more Victorian children have presented with scalds from hot cups of tea and coffee to the four hospital emergency departments covered by VISS.

The time and persistent effort that were required to progress this Hazard recommendation exemplifies the need for more infrastructure and project specific funding to increase the capacity of VISS to pursue interventions that arise from its research findings.

**Burns prevention - cigarettes/lighters/matches**

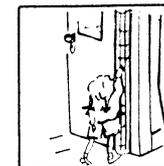
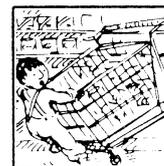
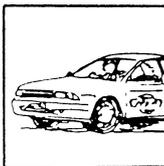
[reported in Hazard 11, June 92; Hazard 12, Sept 92; Hazard 21, Dec 94]

Recommendations
<ul style="list-style-type: none"> <li>consider installing sprinklers in institutions housing elderly smokers [Hazard 11, June 92]</li> <li>consider the introduction of legislation for the mandatory manufacture of low fire risk (self extinguishing) cigarettes [Hazard 12, Sept 92; Hazard 21, Dec 94]</li> <li>develop a low cost child-resistant cap for cigarette lighters and a child-resistant matchbox (or import from USA. and U.K. respectively) and mandate their use in Australia [Hazard 12, Sept 92; Hazard 21, Dec 94]</li> <li>support initiatives to reduce smoking [Hazard 21, Dec 94]</li> </ul>

As reported in Hazard 12 and 21 burn injuries to children resulting from playing with cigarette lighters, although uncommon, are severe. Cigarette lighters were the cause of 16% of the 31 smoking related deaths recorded on the Victorian Coroner's Facilitation System database during the period 1989/90 to 1991/92. Almost all of the cigarette lighter cases involved a child under 5 years old playing with the lighter.

VISS Hospital Emergency Department database shows that over half the children under five years who suffer burns from cigarette lighters require admission to hospital.

Hazard 21 called for governments to regulate that all cigarette lighters on



sale in Australia should have child-resistant catches. To date there has been no positive response from the Commonwealth or any State government, despite the introduction of this safer product onto the Australian market.

*Cricket*, and to a lesser extent *Bic*, child resistant cigarette lighters are now sold in major supermarket chains. *Cricket* lighters are currently promoted by Bryant and May through media advertising and a lighter swap scheme.

At the suggestion of VISS, *Kidsafe* has arranged for a display pack of 25 cigarette lighters to be donated by Bryant and May to every Maternal and Child Health Centre in Victoria. These centres will promote a lighter swap scheme to parents of young children as a means of raising awareness of the availability of this product among one of the highest risk groups. This promotion will expose some 25,000 parents across Victoria to this safer product.

Similar exchange schemes operate at the Child Safety Centre at the Royal Children's Hospital (RCH), Melbourne and, for families whose children are fire lighters, through the Psychiatry Department of the RCH.

Despite the initiatives to educate the consumer taken by Bryant and May and child injury prevention bodies, child resistant lighters currently make up only four percent of the Australian cigarette lighter market share. This poor uptake by consumers indicates that more stringent measures are required.

The *Cricket* child resistant disposable lighter retails at more than double the price of regular disposable lighters (\$1.95 v. 89-95 cents). While increased production would reduce the cost of the child resistant lighter,

its higher price acts as a disincentive for the wider implementation of this safety measure.

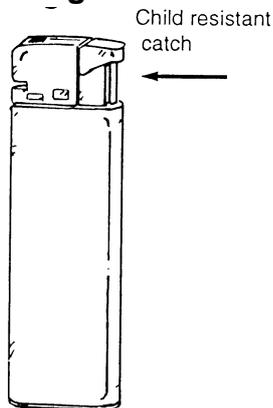
Another burn prevention recommendation in *Hazard 21* was the introduction of a child resistant matchbox such as *Matchguard*, which is manufactured in the U.K.

Efforts by VISS to interest local manufacturers in the production of a similar product (designed to hold the standard size Australian small cardboard match box) have not been successful. The high cost of tooling and low volume local market are again given by manufacturers as reasons for their lack of interest in manufacturing this safety product.

### The challenge

More active intervention by the relevant government authorities is required to decrease these burn injuries. Child resistant cigarette lighters are mandatory in the USA and Canada so there is a persuasive precedent for similar regulatory action in Australia. The Melbourne Metropolitan Fire Brigade and other fire prevention bodies are major protagonists for regulations in this area. VISS will continue its efforts to stimulate government regulatory action in 1996.

**Child resistant cigarette lighter** **Figure 2**



## Child falls prevention - babywalkers

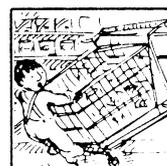
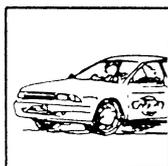
[reported in *Hazard 14*, Mar 93 (home injuries); *Hazard 16*, Sept 93 (the safety of babywalkers); *Hazard 20*, Sept 94 (an update)]

### Recommendations

- impose an Australian product ban on babywalkers or, less preferably, change the design to incorporate a broad base that is wider than household doorways [*Hazard 14*, Mar 93]
- raise public awareness of the risks associated with babywalkers and the necessity of stair guards and supervision [*Hazard 16*, Sept 93]
- encourage retailers to refuse to sell babywalkers [*Hazard 16*, Sept 93]

### Follow-up action

- media: *The Sunday Age*, *Townsville Bulletin*, *Herald-Sun*, *Sunday Herald Sun*, *Waverley Gazette*, *Channel 7*, *ABC Regional TV*.
- information requests: nine, including invited submission from the Federal Minister for Consumer Affairs.
- research study, based on VISS data, on facial injuries sustained by small children in babywalkers or prams.
- exposure data provided through the Australian Bureau of Statistics (ABS) "Safety in the Home" survey conducted in Melbourne in November 1992 enabled VISS to calculate relative risk compared to other nursery items [*Hazard 20*, Sept 94] which further supported the need for a product ban or changed design.



Babywalkers are an injury hazard. In Victoria each year there is a risk that 1 in every 192 babywalkers will cause a significant injury resulting in a hospital emergency department presentation to a child less than one year of age. Babywalkers have been shown to be of no benefit to the baby, in fact there is evidence that their use may hinder child development.

VISS and other Australian and overseas data have consistently shown that babywalker use is associated with serious injury, for example, stairway falls and burns. In the US in 1993 babywalkers were associated with 25,000 hospital emergency department presentations among children aged 5-15 months and the deaths of 11 children in the period from 1989 through 1993 (Murray 1995).

VISS has maintained continuous pressure on Commonwealth and State Consumer Affairs bodies to have babywalkers banned, or, less preferably, the Australian standard revised (as was done in Canada) to demand a broader and more stable base. This latter approach to the problem would limit the mobility of babies using babywalkers, preventing them getting through doorways. The Federal Bureau of Consumer Affairs (FBCA) has declined to place a product ban on babywalkers citing legal impediments as it is the use, rather than the product itself, that is unsafe.

However, in 1995 the Federal Minister for Consumer Affairs, The Hon. Jeannette McHugh wrote to 350 retailers of babywalkers asking them to voluntarily withdraw this product. This action was influenced by the decision of the Myer group of department stores to withdraw babywalkers from sale following

earlier adverse media reports generated by VISS.

The Minister's action through the Federal Bureau of Consumer Affairs and the media attention given to the issue as a result of reports in three issues of *Hazard* appear to have had a beneficial effect in Victoria.

A VISS survey of 13 major retail outlets in a cross section of Melbourne suburbs in November 1995 found that other major general retail chains (Target, K-Mart and Toys R Us) had withdrawn babywalkers from sale "because they were unsafe or dangerous", as had some specialist nursery furniture retailers.

Two of the five specialist nursery furniture retailers that still sold babywalkers reported that they only stocked models which they perceived to have special safety features (for example, models with eight wheels

and a high padded back or wheels that can be locked). The retailers regarded these models as comparatively safe, indicating that they also had some awareness of the injury issue.

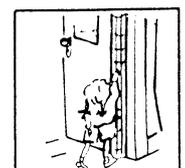
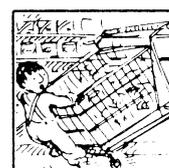
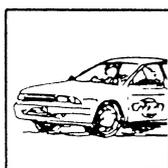
The issue has been raised by VISS in conference papers given at the Second World Conference on Injury Control, Atlanta USA, 1993; the Public Health Association Seminar 'The Health of Mothers and Children', Melbourne 1993; the Children's Nursery Furniture Seminar, Royal Children's Hospital, Melbourne, 1994; and the Health and Community Services Conference, 'Healthy Families, Healthy Children', Melbourne, 1994.

**The challenge**

In 1996 VISS will continue to work with other child injury prevention agencies to pressure the Federal Bureau of Consumer Affairs to review its position and place a product ban on babywalkers.

**Shopping trolley fitted with child seat**

**Figure 3**



## Child falls prevention - falls from shopping trolleys

On a recent trip to the U.K. a VISS staff member photographed a shopping trolley fitted with a child seat and harness in a *Safeway* supermarket (Figure 3).

The danger posed to children by shopping trolleys, mostly fall-related injuries, was highlighted in *Hazard* 22. VISS hospital emergency department data shows that in the period 1989-1993 shopping trolleys were responsible for 268 injuries, predominantly to children under five years of age.

Baby capsules are fitted to some shopping trolleys in *Coles New World Supermarkets* in Australia. However, as shown in *Hazard* 22, shopping trolley injuries peak among 1-3 year olds and major causes are young children standing in, climbing in or out of, or reaching too far out of shopping trolleys.

In 1996 VISS will again approach Australian supermarkets chains to convince them of the advantages of taking a responsible attitude to the prevention of these unnecessary injuries to young children by providing child restraints in shopping trolleys.

## Finger jam injuries from doors

[Reported in *Hazard* 10, Mar 92 (schools); *Hazard* 14, Mar 93 (home); *Hazard* 16, Sept 93 (childcare settings)]

### Recommendations

- install the safest type of door for location, door closures, wedges and finger safe guards in homes, schools and child care settings [*Hazard* 10, Mar 92; *Hazard* 14, Mar 93; *Hazard* 16, Sept 93]
- include measures to prevent finger jam injuries in child care settings in the Children's Services Centres Regulations 1988 [*Hazard* 16, Sept 93]

### Follow-up action

- media: *Herald-Sun* (VicHealth regular Monday column), *ABC radio*
- information requests: 12 including *Kidsafe*, *Civic Mutual Plus*, Shire of Yarra Ranges, Department of Health and Community Services

In 1989 VISS identified finger jam injuries as common in children under 5 years. Within the previous year (1988-89) 143 injuries occurred as a result of a child jamming his/her finger in a door. Finger jams often result in crushes, fractures and even amputations.

A follow-up study conducted by MUARC on a sample of these child finger jam cases (Ozanne-Smith et al 1992, unpublished) found that the most severe finger jam injuries to children, especially to one and two year olds, involved the hinge side of the door. The opening side was more

commonly associated with finger jam injuries to older children.

Consequently, VISS assisted the development of a 'finger-safe guard' which shielded the hinge side of the door.

Research into injuries in the home and child care settings for *Hazards* issues 14 and 16 found finger jam injuries to be frequent and severe injuries in both these locations.

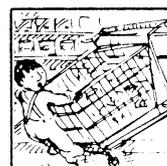
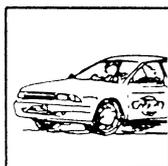
Since 1993 VISS has concentrated on promoting the finger-safe guard, raising community and government awareness of the problem, and implementing preventive measures in child care settings.

In late 1993 and early 1994 VISS raised with relevant government departments, Ministers and committees the need to include countermeasures to finger jam injuries in either the Quality Improvement and Accreditation System or in the National Standards for Centre Based Long Day Care. These approaches were unsuccessful.

In May 1995 VISS again raised the door finger jam issue in a submission in response to the 'Future Legislative and Regulatory Framework for Children's Services Discussion Paper, April 1995'. The draft framework will be released for comment in 1996.

As an interim measure VISS wrote an article on finger jam protection for *Information Update* 1/95 (recently re-named 'Extra'), the newsletter of the Preschool and Childcare Branch of the Primary Care Division of the Department of Health & Community Services, Victoria.

This newsletter was circulated to 3,500 registered or government funded children's services including



childcare, preschool and occasional care centres, school-age services, peak bodies and interested associations.

*Civic Mutual Plus*, the insurer of 98% of Victorian Local Government Areas (LGAs) included finger jam protection in their March 1995 *Risk Management Manual* update. Their attention was drawn to the issue by media reports of VISS findings published in *Hazard* and the information used in this manual update was largely from VISS.

In terms of implementation, in 1995 the Shire of Yarra Ranges was awarded a grant of \$10 000 by the Victorian Department of Health and Community Services to reduce finger jam injuries among children in their own homes and child care settings.

The Shire incorporated information from VISS on the prevention of finger jam injuries, including the use of door guards, in their training program for new child care workers and raised awareness of the issue among the general public during Children's Week 1995. The Shire will produce an educational video on the topic in 1996.

*Kidsafe* has included VISS information on finger jam injuries in its leaflet on outdoor safety in pre-school centres to be distributed in 1996.

Sales of this door hinge finger jam protective device have increased at an accelerated rate during 1995. Sales almost doubled from 338 in the second quarter of the year to 640 in the third quarter.

This jump in sales can be attributed to a number of factors: the Risk Management Manual update; a successful litigation case which drew attention to the issue; greater awareness through VISS input into

the media and a Department of Health & Community Services publication; and the promotion work undertaken by the Child Safety Centre at the Royal Children's Hospital among child care bodies seeking government accreditation.

During 1995 VISS encouraged an educational toy shop *Hop, Step and Jump* to stock finger safe guards as the number of sale outlets for the product was very limited.

A recent development is the establishment by the Victorian Prevention of Child Injury Committee of the Finger Jam Prevention Working Party. Its brief is to examine the issues surrounding finger jam injuries, develop prevention strategies and make recommendations on their implementation. VISS is represented on this working party.

**The challenge**

In 1996 VISS will continue its efforts to increase community awareness of this issue and push for the use of products which prevent door finger jams in homes, child care settings, kindergartens and schools through its work for the Victorian Prevention of Injury Committee and other avenues.

Community awareness (and sales) of the finger-safe guard will need to increase dramatically for this measure to have any significant impact on the finger jam injury problem.

**Prevention of needlestick injuries**

[reported in *Hazard* 17, Sept 93 (workplace)]

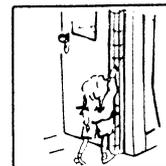
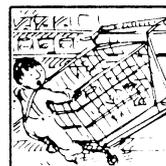
**Recommendations**

- use disposable syringes [*Hazard* 17, Sept 93]
- develop and promote the use of safer products eg. pliable and puncture resistant gloves, low cost retractable needles and other devices such as rubber sheath removers that minimise contact with a sharp [*Hazard* 17, Sept 93]
- educate health care staff about current recommendations on infection control practices and ways to reduce exposure [*Hazard* 17, Sept 93]
- immunise hospital staff against Hepatitis B [*Hazard* 17, Sept 93]

Accidental needlestick injuries are a serious concern because of the risk of blood-borne transmission of Hepatitis B and C and HIV. There were 225 needlestick injuries reported on the VISS hospital emergency presentations database in the period 1991-1992. Injured workers were predominantly registered nurses, medical practitioners, State enrolled nurses and cleaners.

*Hazard 17* recommended an holistic approach to this problem which includes education of healthcare workers and the development and promotion of safer products.

A company that has taken this approach and invested heavily in research and development of safety-engineered products and education programs to minimise the risk from



hypodermic products is Becton Dickinson, the world's largest manufacturer of needles and syringes.

As shown in the Figure 4, the *B-D®Safety Lok™* Syringe is fitted with a sliding shield that locks over the needle and an indicator which turns red to green to confirm that the shield is in place and safe for disposal. This syringe is suitable for widespread general use in place of standard disposable syringes. However, the higher cost-per-item (currently more than double the cost of a standard disposable syringe) is a barrier to use, although the cost differential is shrinking as the volume of production increases.

Another of the company's products that has the potential to significantly

reduce needlestick injuries in hospital settings is the *Interlink® IV Access System* (co-promoted with Baxter Healthcare). This intravenous therapy system introduces an advanced design injection site and safe blunt cannula to replace conventional needles. It eliminates up to 80% of the sharp steel needles formerly used for intravenous administration.

While many hospitals have introduced needleless systems for the administration of anaesthetics, Victoria appear to be lagging behind other States in adopting hospital-wide needleless systems. From the information supplied to VISS in late 1995, sixteen NSW hospitals have introduced a hospital-wide system, while the Maroondah Hospital is the only Victorian hospital to do so.

## References

Chalmers D. "Prevention of arm fractures in playground falls. Do we have the answers?" in Proceedings from The First National Conference on Injury Prevention and Control held on 27-28 February 1995, Sydney, NSW. Commonwealth Department of Human Services and Health . AGPS, 1995.

Harrison JE, Cripps RA (editors). *Injury in Australia: an epidemiological review*. Canberra, AGPS, 1994 (Chapter 10).

Harrison JE, Dolinis J. *Injury Mortality Australia 1993. Australian Injury Prevention Bulletin* 10, August 1995.

Murray T. "US pediatricians urge recall, ban on baby walkers". *Injury Prevention* 1995;1: 149-151.

Ozanne-Smith J et al. "Finger jam injuries to children in doors" in *Child accident and injury prevention research in other than road accidents* (unpublished). Monash University Accident Research Centre. 1992.

Victorian Injury Surveillance System *Hazard* Volume 1, Editions 1 to 10, Injury data and prevention. Monash University Accident Research Centre. March 1993.

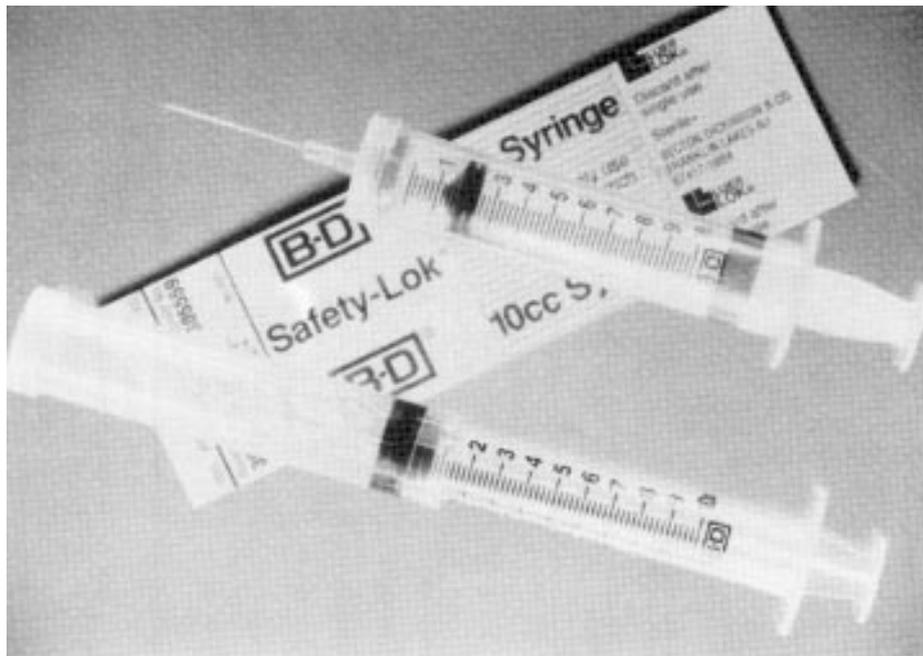
Victorian Injury Surveillance System *Hazard* Volume 2, Editions 11 to 20, Injury data and prevention. Monash University Accident Research Centre. February 1995.

Victorian Injury Surveillance System "Smoking-related injuries" in *Hazard* Edition 21, Domestic Violence. Monash University Accident Research Centre. December 1994.

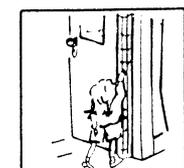
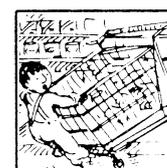
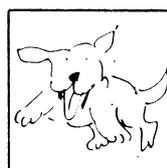
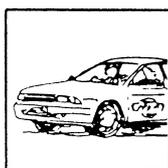
Victorian Injury Surveillance System *Hazard* Edition 22, Product related injury - a selection (domestic architectural glass and shopping trolleys injuries). Monash University Accident Research Centre. March 1995.

The *B-D®Safety Lok™* Syringe

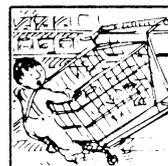
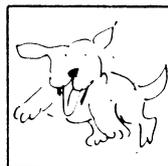
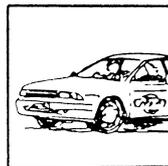
Figure 4



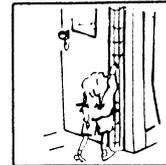
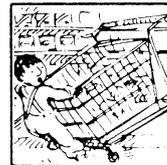
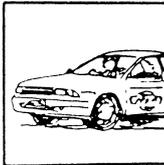
B-D is a registered trademark of Becton Dickinson & Company  
InterLink is a registered trademark of Baxter Healthcare



# Issues in Brief



<p><b>Issue</b></p>	<p><b>Prevention of domestic architectural glass injuries</b>                  During the period 1989 to 1993 there were 862 architectural glass injuries recorded on the VISS hospital emergency department database. Most of them occurred in the home and involved glass doors and windows. The injured were predominantly male and in the younger age groups (under 5 year olds for children and 20-24 year olds for adults aged &gt;15 years). The vast majority of the injuries were lacerations to the upper limbs and face.</p>	<p><b>Injuries associated with rollerblading</b>                  Rollerblading injuries have risen from no recorded cases in VISS participating hospitals in 1989 to 113 cases in 1992 and 147 cases in 1993. Nearly half of rollerblading injuries recorded in 1993 were wrist injuries, 80% fractures. Eleven per cent were head injuries. The 10-14 year old age group is most at risk and injuries occur most often on footpaths and public roads. A small follow-up study in 1992 showed that rollerblading injuries occurred when users were learning or when experienced rollerbladers were trying new stunts (most of the injured were not wearing wrist guards).</p>
<p><b>Hazard coverage</b></p>	<p>Editions: 7, June 1990; 14, Mar 93; 16, Sept 93; 22, Mar 95                  * include the 1989 revision of the Australian Standard (AS 1288) on "Glass in Buildings - Selection and Installation" in Victoria's building code which requires safety glazing materials in some residential situations where annealed glass was previously acceptable [Hazard 7]                  * replace annealed glass with safety glass whenever glass is replaced in existing homes [Hazard 22]                  * reduce the price level differential between safety and annealed glass [Hazard 22]                  * promote the application of special plastic film, bars, rails or warning stickers on existing hazardous glass [Hazard 7 &amp; 22]                  * Glass Australia (trade journal)</p>	<p>Edition: 15, Jul 93                  * create areas for rollerblading separated from traffic and pedestrians and encourage initial training in a protected environment [Hazard 15]                  * children under 5 years old should not use rollerblades [Hazard 15]                  * promote the use of safety equipment (helmets, wrist protectors, knee and elbow guards) [Hazard 15]                  * rollerblade hire outlets should also hire out protective equipment; hirers and sellers should give advice on fitting of rollerblades, offer initial tuition and recommend the use of safety equipment [Hazard 15]</p>
<p><b>Media follow-up</b></p>	<p>* eight including O'Brien's Glass</p>	<p>* Shepparton News; The Age; The Today Show (Channel 9); Australian Journal of Paediatrics and Child Health; Kidsafe Magazine.                  * four including Department of Orthopaedics (Royal Children's Hospital)</p>
<p><b>Information requests</b> <b>Further action</b></p>	<p>* research study by Drs Nolan and Court (Royal Children Hospital) on a sample of children injured by domestic glass [Hazard 7]                  * CSIRO conducted a study to determine the nature of the domestic glass involved in injuries [Hazard 7]</p>	<p>* research used as Case Study in Report to the Australian Consumer's Council (1993) (Safety in the Making Product Safety for the Year 2000 - Moller, J. 1994)</p>
<p><b>Implementation</b></p>	<p>* Victoria adopted the 1989 revision to the "Glass in Buildings" Standard into its building code, operational from April 1991 for new houses and houses undergoing renovation. [Hazard 7]</p>	<p>* MUARC has prepared a research proposal to examine the effectiveness of wrist guards and investigate their wearing rate by rollerbladers.</p>
<p><b>Future challenges</b></p>	<p>* monitor the effectiveness of the revised Australian Standard and Building code requirement as an injury prevention measure                  * promote the use of safety glass when domestic glass is being replaced to householders, glaziers and insurance companies, with attention to reducing the price differential                  * as an interim measure promote the application of special plastic film, bars, rails and/or warning stickers on existing hazardous glass</p>	<p>* research the use and effectiveness of protective equipment especially wrist guards                  * survey hire outlets to determine current practice regarding safety education and measures                  * investigate whether safety strategies are promoted/implemented by the rollerbladers' association</p>

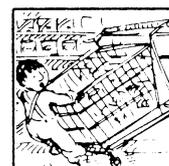
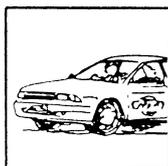


<p><b>Issue</b></p>	<p><b>Play equipment-related injury</b> There were 4,237 cases of play equipment-related injury to children under 15 years of age reported by VISS participating hospitals in the period 1989-93. The 5-9 year age group was most at risk of these injuries. Injuries mostly occurred in school playgrounds and other childcare settings (47%), followed by private homes (18%) and public and private or commercial playgrounds and amusement areas (17%). Over 80% of injuries resulted from falls. Monkey bars, slides or sliding boards, swings and swing sets were the pieces of play equipment most frequently involved in injuries to</p>	<p><b>Dog bites</b> In the five year period 1989 to 1993, 1093 children presented to VISS participating hospitals with dog bites, 26% of these cases were admitted to hospital. Children under 5 years, particularly toddlers, were most at risk. Outdoors at home was the most frequent location for child dog bite injuries (54% of cases). In the three year period 1991-94, there were 516 adult cases of dog bite injury reported in the VISS database.</p>
<p><b>Hazard coverage</b></p>	<p>Editions: 2, Dec 88 (joy wheels); 3, July 1989; 4, Nov 1989; 10, Mar 92 (schools); 14, Mar 93 (home injuries); 16, Sept 93 (child care settings)</p>	<p>Editions: 3, July 1989; 4, Nov 89; 12, Sept 92; 18, March 94 (work-related)</p>
<p><b>Key recommendations</b></p>	<ul style="list-style-type: none"> <li>* address design factors that are associated with play equipment injuries including height of equipment, safety rails, size and distance between bars, stability and layout of equipment and revise Australian Standards [Hazard 3, 14, 16]</li> <li>* install and maintain effective impact absorbing undersurfacing to the recommended depth of 200mm (community playgrounds 250mm) [Hazard 3, 14, 16]</li> <li>* attend to the design, maintenance and conformance to the new Australian Standard (AS 2155), when available, for play equipment and undersurfacing in all primary schools, child care settings (include conformance in Children's Services Centres Regulation)</li> </ul>	<ul style="list-style-type: none"> <li>* promote the development of a radiator cap that has a safety valve and devices such as magnetic deflectors which deflect the boiling radiator water/steam downwards to protect the motorist or mechanic [Hazard 20]</li> <li>* develop a radiator cap which cannot be removed if the water temperature is above a designated temperature or pressure [Hazard 12 &amp; 20]</li> <li>* promote these safety rules to motorists: wait for the vehicle radiator cap to cool down before touching; release to the first click and remove cap if there is no pressure [Hazard 20]</li> </ul>
<p><b>Media follow-up</b></p>	<p><i>Herald-Sun, Adelaide Advertiser, ABC radio, Herald-Sun, The Sunday Age, 60 Minutes</i></p>	
<p><b>Information requests</b></p>	<p><i>Playgrounds - five including The Playgrounds and Recreation Association of Victoria, Shire of Bulla Safe Living Program, individual local government councils</i> <i>School play areas - 23 including Outdoor Education Department, Shire of Bulla Safe Living Program, Latrobe Valley Better Health Program, Queensland Council of Parents and Citizens, proposed Schoolsafe program</i></p>	
<p><b>Further action</b></p>	<ul style="list-style-type: none"> <li>* Playground and Recreation Association of Victoria follow-up study of playground injuries identified by VISS, including site investigations and interviews with victims/carers published with recommendations [Hazard 10 Mar 92]</li> </ul>	<ul style="list-style-type: none"> <li>* VISS attempts to contact the manufacturer of magnetic deflectors were unsuccessful - the product is no longer on the market</li> </ul>
<p><b>Implementation</b></p>	<ul style="list-style-type: none"> <li>* nine joy wheels removed from playgrounds by St Kilda Council over a three month period following VISS report [Hazard 2, Dec 88]</li> <li>* the 1982 Australian Standard has been under review by a Standards Australia Committee since 1986 but no agreement on revisions has been reached to date</li> <li>* Standards Australia is currently considering the adoption of the NSW Kidsafe Guidelines on Safe Playgrounds</li> </ul>	
<p><b>Future Challenges</b></p>	<ul style="list-style-type: none"> <li>* further research to confirm and refine findings reported at the First National Conference on Injury Prevention and Control 1995 by Dr David Chalmers (Injury Prevention Research Unit, NZ) regarding fall heights and playground equipment injury (i.e. that falls from heights in excess of 1.5 metres were over four times more likely to result in injury than falls from 1.5 metres or less)</li> <li>* action to break the impasse that has developed over the introduction of a revised Standard for playgrounds which includes undersurfacing</li> </ul>	<ul style="list-style-type: none"> <li>* identify the responsible authority who should take up the issue of non-traffic motor vehicle related injuries including car radiator scalds</li> </ul>

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\* Special edition



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# General Acknowledgements

## Participating Hospitals

Latrobe Regional Hospital (Traralgon and Moe)

The contributions to the collection of VISS data by the director and staff of the Emergency Departments of these hospitals, other participating clinicians, Medical Records Departments, and ward staff are all gratefully acknowledged. The surveillance system could not exist without their help and co-operation.

## Coronial Services

Access to coronial data and links with the development of the Coronial Service's statistical database are valued by VISS.

## National Injury Surveillance Unit

The advice and technical back-up provided by NISU is of fundamental importance to VISS.

# How to Access VISS Data:

VISS collects and tabulates information on injury problems in order to lead to the development of prevention strategies and their implementation. VISS analyses are publicly available for teaching, research and prevention purposes. Requests for information should be directed to the VISS Co-ordinators or the Director by contacting them at the VISS office.

## VISS is located at:

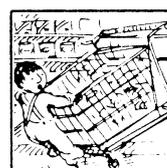
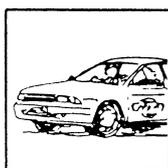
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