SPLINTERS & FRAGMENTS

Redesign handlebars to avoid spearing child cyclists

When children fall from their bicycles, they typically injure their heads and extremities. When they fall onto bicycle handlebars, however, they are more likely to be injured on the abdomen or pelvis, depending on the way the bicycle has fallen. This was the scenario for 16% of 107 injured child cyclists. Possible countermeasures include reviewing the use of stunt cycles for home use, selecting an appropriate sized bicycle, designing handlebars which curve away from the rider, limiting the rotation of the front wheel, and padding handlebars (*Pediatrics* 1998;102:596–601).

Walking to school

Increased car travel is associated with obesity, pollution, limited independence, and traffic congestion. To develop strategies to reduce car travel to and from schools, a survey was conducted with primary school aged children in inner London to determine their principal travel modes (on foot, by car, bus, train, or bicycle). The distance to school, parental car ownership, attending an independent school, and fear of abduction all influenced parents' decisions to drive children to school. The authors recommend policies to encourage attendance at local schools, and strategies to deal with the fear of abduction (BMJ 1998;316:1426–8).

Recommended practice for child car restraints

A study from the Centers for Disease Control (CDC) found that three quarters of children were incorrectly restrained in car seats, often in the 13–24 month age group. More errors were observed in convertible than in single purpose restraints. Factors used to judge correct use include snug fit of the safety belt, seat not cracked or subject to manufacturer recall, the buckle is secured, no space

between car seat and child seat, harness straps correctly adjusted for the child's height, and the child's height/weight are appropriate for the seat. CDC recommendations are that car seats be engineered to be easier to use, that rear seats be equipped with universal attachments (anchors), and that healthcare providers offer guidance in correct usage at appropriate developmental stages (*MMWR* 1998;47:541–4).

Airbags again

An excellent overview of the history and mechanics of airbags precedes a description of the main injuries to chest, head, eyes, upper limbs, and spine from impact with airbags. Desirable improvements include an increased deployment threshold, lighter and less abrasive material, retractable module covers, venting of gases outside the vehicle, raised pedals for short drivers, and increased awareness of injury mechanisms by emergency physicians (Postgraduate Medical Journal 1998;74:455–8). The strategies to reduce the risk of injury to children from airbags recommended by the Harvard Center for Risk Analysis include

restraining children properly, securing them in the rear seat, suppressing airbag deployment through active (manual cut off) or passive disarmament measures, raising deployment thresholds for airbags to prevent unnecessary firings, depowering airbag systems, and/or installing dual stage inflators linked to crash severity (Pediatrics 1998;102:e3).

Driveway runovers

Driveways were the predominant location for the deaths of 28 children who were run over by vehicles travelling at slow speed, representing 16% of paediatric pedestrian fatalities. Vehicles included family sedans and station wagons, vans, four wheel drives, trucks, trailers, utilities (pickups), and tractors. The authors discuss the utility of fenced separation of children's play areas from driveways, which could be useful in those cases where the driver was unaware of the presence of the child as in 17 of the cases. As trucks and other large vehicles with poor rear visibility were over-represented, engineering modifications might include improved rear-view mirrors and warning sensors attached to bumper bars. Some drivers were aware of the proximity of children, and many children were being supervised at the time. For those cases where children were "racing" or jumping onto vehicles or riding on trailers, educational approaches would be more appropriate (*Accident Analysis and Prevention* 1997;29:731–7).

Is it possible to teach adolescents to drive safely?

Intervention and control groups of year 12 students (mean age 15.8 years) from six New Zealand schools were given pre-test questionnaires to assess risky behaviours and intentions with regard to driving and being driven (drinking and driving, compliance with traffic laws, and tendencies towards unsafe judgments). Results appear to indicate that the educational program had no effect on the intervention group's responses in the follow up survey, although the authors acknowledge that some aspects of the program may not have been well chosen for the age group. The program encouraged students to explore a range of options rather than directing them to specific alternatives to unsafe behaviours. The authors acknowledge that there may have been insufficient clarity in the program about the nature of safe versus unsafe driving and passenger behaviours and how to handle them. As driving is a social behaviour for most young people, the authors suggest that altering unsafe behaviours might best be delivered in the context of the young people devising strategies to work for social change for the whole community, not only for themselves (Australian & New Zealand Journal of Public Health 1998;22:447–50).

Bull bars

Testing using impact test procedures developed to assess the safety of cars in impacts with pedestrians, has shown that, in general, vehicles equipped with bull bars are more likely to cause injuries to pedestrians, especially child pedestrians, than vehicles not fitted with bull bars. Test results from trials with plastic bull bars have shown them to be much safer for pedestrians and there is evidence that cars equipped with these may even be safer than cars without (*Pre-hospital Immediate Care* 1997;1:99–100).

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