ABC of 1 to 7

H B VALMAN

ACCIDENTS

Accidents are the largest single cause of death between the ages of 1 and 15 years, causing more deaths than the two next commonest causes combined. Road accidents form the largest group followed by those in the home. Family doctors see as many patients with accidents as accident and emergency doctors, so a substantial proportion of children need medical attention for trauma every year. Non-accidental injury and poisoning will not be dealt with here.

The word accident implies that the event is not predictable or preventable. But prevention can be tackled by dividing the problem into factors concerning the child, the specific agent, and the circumstances. Since accidents in the home form a large proportion of accidents, it may be possible to prevent a future death by pointing out possible hazards for children during a home visit. Health visitors, who routinely visit homes with young children also play an important part in suggesting how the home can be made more safe.

Road accidents

Traffic is the most complicated environment that a child can experience. Children are unable to anticipate all types of hazards in traffic and do not know how to adapt to them.

Nearly 80% of children aged 5 to 9 years who are killed or seriously injured in road accidents are pedestrians, compared with 28% of road accident casualties of all ages. Parents should be taught that young children cannot judge traffic properly and need to be accompanied in busy traffic. Many accidents are caused by children dashing out into the road when their vision is obstructed. Studies have shown that children conform to guidelines on safe behaviour better than adults, but adults' behaviour is often far from ideal, and they might influence children to copy them. The risk of an accident while crossing the road decreases from 5 to 11 years, and the higher proportion of accidents in boys aged 5-7 than in girls may result from differences in behaviour, skills, and exposure during play.

One way of reducing bicycle accidents in children may be to make possession of a cycling proficiency certificate compulsory before a child were allowed to ride unaccompanied on a public road. Certainly children should be able to handle their bicycles properly, to look behind them, and to make signals before they are allowed on roads, and parents should ensure that the cycle is of the right size and properly maintained. Campaigns to improve adults' understanding of children's behaviour in traffic have been implemented in Sweden.

Children are injured less often in car accidents than adults and are safer in the rear seats than in the front. After the summer of 1982 it will be illegal for a child under 14 to sit unrestrained in the front of a car. An infant in a carry-cot placed transversely across the car can be protected by a restraint that attaches the carry-cot to the structure of the car and prevents the child from falling out of the cot during impact or when the car is inverted. When the child is old enough to sit up he can be carried in a properly designed and secured safety chair. Such a chair also allows small children to see out of the car windows. When the child outgrows this chair a child safety harness can be used.

Pictorial teaching aids are widely used in schools to help increase children's awareness of road safety, but in many cases they are merely put up for children to see and it is important that children can understand them. Much research has been done into producing effective teaching material for use by teachers and children, but the value of this material cannot be determined for several years. This work has been sponsored by the Royal Society for the Prevention of Accidents (RoSPA), the Transport and Road Research Laboratory, the Child Accident Prevention Committee, as well as the Schools Council and the Health Education Council.

Accidents in the home

Falls account for about 40% of injuries at home to children aged under 5 years. Poisoning is the next most common cause, followed by cuts and bruises. Burns, scalds, choking, and suffocation are also important causes of injury or death. Some of these accidents can be prevented by better design or better components. The unsatisfactory design of windows above ground floor level shows the failure of designers to analyse safety requirements. They have not considered how to protect the youngest children, yet they are particularly likely to fall from windows. Windows should be inherently safe so that householders do not have to rely on safety devices which can (and often do) fail. Children climb on furniture and window ledges to see out, so the windowpane should be low enough for small children to see out of when they stand on the floor. The low level window should be made of laminated safety glass so they cannot fall through it.

Unfortunately there is no requirement to use safety glass in windows or glass doors or partitions in the home. Children may easily run into glass doors, particularly if they are made of plain transparent glass with no markings; if the glass breaks the child may be severely injured by the razor-sharp edges.

The principle of prevention in other household accidents is to keep the child away from the hazard. Thus stairs should have gates to prevent toddlers falling down them and doors to balconies should be locked. Medicines, matches, and household chemicals such as bleach and white spirit should be locked away. Pills and other dangerous substances should be in child-proof containers and never put in bottles or jars normally used for food or drink. Fires should be guarded, and parents need to be aware of how easily a child may be scalded by tipping over pans, kettles, and cups of hot liquid. Peanuts are a common cause of choking in young children, and children may suffocate themselves with plastic bags left lying around.

Playground equipment injuries

Injuries from playground equipment are often caused by the use of equipment in ways the designer did not envisage. It is dangerous for older children to use swings designed for younger ones or for several children to be on a swing at once. Children may fall or be pushed off a slide, especially when climbing up the slide while others are sliding down at the same time. Large rocking horses designed for several children to use at once may move too fast for the smaller ones, who may be thrown off. The long rocking horses are not suitable for the young children for whom they were originally designed. It is difficult to design equipment which is completely safe without destroying the excitement which encourages children to use it. Children may get their arms or legs caught under playground roundabouts. Hazards of slides can be reduced by making the slide part of a grassy bank. Separation of age groups and more adult supervision would increase safety.

Environment

A kitchen window which looks into the garden improves safety. The lower branches of trees can be removed to prevent the tree being climbed. An ice cream van on the opposite side of a busy road can also be dangerous. Railways and canals are also hazards for children and it is difficult to make every stretch of water and rail childproof by walls and fences. These may be damaged by vandalism.

The Trident Trophy Scheme (open to secondary schools) encourages children to become proficient in survival, swimming, and lifesaving. RoSPA has its own cycling proficiency scheme. Its safety education division has a "Tufty Club," which caters primarily for children under 5 years. This is an association of some 14 000 local clubs, with perhaps 30-100 small children in each, and other children are enrolled as individuals. Most of these clubs are found in nursery schools, primary schools, and playgroups. They teach safety not only to young children but also to their parents. Other organisations helping in the promotion of safety education are the Health Education Council, the British Standards Institution, the Transport and Road Research Laboratory, the Medical Commission on Accident Prevention, the Fire Protection Association, and the Design Council.

Doors to bathrooms and toilets should have handles that allow a bolted or locked door to be opened from the outside. Cooking stoves should be designed so that heated pots and pans as well as hot ovens are difficult for children to reach. Washing machines should stop automatically when the door is opened.

To be effective protection must be provided for children of different ages and abilities. The toddler takes an overdose of medicine while exploring his environment, the 6-year-old dashes into the road without realising the dangers, and the 12-year-old falls while climbing a tree. The very young cannot be taught how to avoid these dangers and therefore must be protected from them. As children grow older their parents and teachers can teach them how to cope with dangerous situations such as roads, warn them of other dangers, and help them to assess what is a reasonable risk.

Dr H B Valman, MD, FRCP, is consultant paediatrician, Northwick Park Hospital and Clinical Research Centre, Harrow.

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