Good Practice Guidelines on Road Safety Education

Early childhood
(Birth to 5 years)

Why are children vulnerable road users?

Using the road safely requires a range of skills to make highly complex decisions. These decisions relate to a person's ability to pay attention to their environment and to process information in order to identify and respond to hazards on and around the roads.

We are not born with these abilities; instead, they are acquired continually from childhood and into adulthood as an individual's body and brain mature. Many of these skills are learned through experience, education and the application of advanced cognitive (brain-based), sensory and physical capabilities.

Infants, toddlers and pre-schoolers do not have the experience, cognitive or physical maturity required to safely respond to the dynamic and changing interactions around roads. Exposure to traffic situations which exceed the capabilities of children places them at greater risk of road-related injury. Road safety education for this age group is primarily directed towards parents, carers and other loved ones, as infants and toddlers are unable to manage these risks themselves.

To deliver effective road safety education it is important to understand the specific risk factors for infants, toddlers and pre-schoolers that increase the likelihood of being involved in a fatal road crash.

What does the research say about the risks for babies, infants and toddlers?

Early childhood is where children undergo the most rapid development of their lives. Although rapidly maturing, children are at risk of injury or death when around or near roads, as their physical and cognitive development is still not adequate to enable them to navigate hazards posed by vehicles and other road users.

Risk to this age group is also increased as children become mobile, inquisitive and begin to explore their physical environment. This increase in mobility, coupled with cognitive underdevelopment, means that infants and toddlers are unable to understand, identify and manage risks around roads, and are reliant on adults to manage these risks for them.

Early Childhood (Birth to 5 years)

Key risk factors facing infants, toddlers and pre-schoolers include:

Cognitive risks

- Under the age of five, young children are still developing the parts of their brains responsible for abstract thinking. Young children will have difficulty grasping abstract ideas such as road safety due to the relative immaturity of their brain development. For example, in the early years of childhood, toddlers are developing object permanence – the concept that an object still exists even though it has been moved out of sight. An infant will struggle to grasp a vehicle is still coming when it disappears beyond a blind bend in the road. As such, toddlers rely entirely upon parents, carers and other adults to supervise and manage hazards.[1,2]
- Infants and toddlers have difficulty with their attention spans. Frequently, their attention is controlled by novelty within the environment – for example, new events or items that attract their focus.[3]
- Infants and toddlers have a considerably smaller field of view, which particularly affects their peripheral vision, as well as limited depth of focus. This, in addition to their still-developing brains, means that young children are unable to estimate speeds and distances, which are key skills required for navigating the road safely.[4]

Physical risks

- As toddlers begin to walk, they may try to explore around the house or leave direct supervision.[5,6] This increases risk when children are able to open doors and go outside unsupervised.
- The small stature of young children increases their vulnerability in and around traffic as they may be difficult to spot by drivers. This risk is increased near driveways where drivers reversing vehicles may have blind spots resulting in run-over incidents.[7] At this age, children are likely to suffer head and neck injuries due to their height if they are involved in a low-speed run-over.
- Although everyone is at risk when in a car crash, the body of a young child is especially vulnerable to trauma as it is still developing (for example, their bones are not as developed as adults, and are therefore more prone to breaking)[8]. As a result, it is critical that young children are in an Australian Standards-approved child restraint that is appropriate for their age, size and height.[9]

Social Environment

- Young children are curious and usually undergo a period of significant exploration during this age range after they gain mobility, which may increase their exposure to road traffic environments.[10]
- At this age, infants, toddlers and pre-schoolers are entirely dependent on adults to provide appropriate supervision and to manage the risk presented within the traffic system.[11]

What does this research mean when teaching road safety education for infants, toddlers and pre-schoolers?

Babies, infants and pre-schoolers are extremely vulnerable and do not have the ability to manage risk around the roads by themselves

As young children become mobile, their risk around driveways and roads increases. This increased risk is because, within this age group, children have the instinct to physically explore their environment, but do not have the skills required to identify and respond to hazards they encounter on and near the roads by themselves.

Young children are reliant on adults for assistance to manage the risk and decision-making required to keep safe. Parents and carers have a critical role in providing the supervision required to keep children out of harm at this age. Road safety education for this cohort is therefore primarily targeted towards parents and other adults who play a critical supervisory role for this age group.

Young children still absorb messages, so positive role modelling is important

Road safety education for parents and carers should emphasise the importance of modelling safe behaviours and talking to children about road safety to positively influence their attitudes early on.[12] Examples of positive role modelling include talking to children and demonstrating:

- buckling up a seatbelt when in the car
- looking in both directions and making sure that no cars are coming before crossing a road
- the requirement to hold an adult's hand when walking on a sidewalk or path
- the need to be aware of all motor vehicles and road users at all times, such as looking around when in a car park and not walking in front of cars.

Although children within this age group do not yet have the skills to manage the risk on and around roads by themselves, children absorb safety messages during these formative years.[13] Accordingly, pre-school interventions for children themselves are also important, as the earlier children learn about road safety, the better they are set up for future education and success.

Parents and carers should understand the importance of child restraints to protect their children

During these physically vulnerable years, it is vital that parents and carers understand their responsibilities in keeping children in a properly fastened and adjusted Australian Standards-approved restraint that is right for their child's height and size, as required by law.

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Contact

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