



Good Practice Guidelines on Road Safety Education

Early Adolescence (12 to 15 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 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.

As a result, young adolescents may 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 adolescents places them at greater risk of a road-related injury.

When providing road safety education, it is important to understand the specific risk factors of each age group that increase the likelihood of being seriously injured or killed in a road crash.

What does the research say about the risks for adolescents and young teenagers?

As a child enters adolescence, they continue their physical and mental development. During this period, physical development leads to hormonal changes that may influence an adolescent's ability to regulate their emotions and impulses.

At the same time, significant social changes common within this age group means that friends and schoolmates become bigger influences in a child's behaviour. This can also accompany increased independence, resulting in changes to an adolescent's exposure to the road environment, which is often unsupervised.



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Key risk factors facing adolescents and young teenagers include:



Cognitive risks

- The cognitive development of a child continues until around age 25 as the neural networks (networks within the brain that support the specialised aspects of cognition that characterise adulthood) undergoes extensive remodelling.^{1,2}
- The pre-frontal cortex represents the decision-making centre of the brain. The development of this strongly influences the ability to undertake complex cognitive behaviours such as decision-making, and impulse control. Within the context of road safety, the still-developing pre-frontal cortex means that an adolescent's ability to undertake effective, risk-based decision-making is limited.³



Physical risks

- Early adolescence includes a period of notable physical growth. During this stage, children become less vulnerable to run-over incidents as a result of their increased physical size, in addition to their growing understanding of the need to behave safely on and around the roads.⁴
- Young adolescents commonly use scooters and bicycles for personal transportation and recreation. At this age, they are physically vulnerable to the effects of a crash, especially when involving injury to the brain.



Social Environment

- Young adolescents often demonstrate a tendency toward increased risk-taking and may experiment with pushing boundaries and social norms.⁵
- In addition to the neurological changes that are occurring, the onset of puberty brings about changes in the hormones which can affect motivation, mood, and emotion, which may result in more impulsive behaviour.⁶
- Although parents and teachers remain an important influence on adolescents, during this age period there is an increased focus on social status as a driver of behaviour.⁷ This can result in adolescents' willingness to engage in more risky behaviour when with peers, such as taking more risks when crossing roads.⁸
- Changes in travel, including unsupervised travel, increases the exposure of early adolescents to road hazards. During this age period, adolescents are likely to begin travelling independently on public transport, or as a pedestrian or bike rider. They may also begin to travel as a passenger with young, inexperienced drivers, due to age proximity to Provisional Licence holders.
- Increased independence may also increase the likelihood of distraction. Early adolescents may be distracted by their peers or by mobile technology while walking or cycling.^{9,10}





What does this research mean when teaching road safety education for adolescents and young teenagers?

Teenagers undergo numerous social and physiological changes that increase risk

During early adolescence, there are a broad range of interrelated factors that increase the risk of being involved in a fatal road incident. These factors include increased independence in travel, heightened emotional responses and an increase in social motivation. Although young teenagers' thinking becomes more complex during this stage, their ability to make informed decisions is still limited as they lack the cognitive development needed to control their impulsivity in comparison to adults.

Although peers often become more important to this age group, parents and teachers are still influential

Road safety education for this age group should also account for the changing influences in motivation, as peers increase in significance. However, parents and other adults are still important influences, particularly in providing supervision, and in modelling of positive road safety behaviours and attitudes. At this age, in addition to modelling safe pedestrian and cycling skills, parents can prepare children for future driving by:

- explaining safe driving habits such as ensuring all passengers are using a seatbelt before driving, and performing visual safety checks before starting the

car, as well as safer driving behaviours when on the road like indicating appropriately and checking for other drivers before changing lanes

- modelling positive behaviours like the need for emotional regulation when driving (for example, not getting verbally aggressive with other drivers on the road)
- brainstorming future potential risk scenarios adolescents may face (such as peer pressure to speed, accepting a lift when at a party, or being pressured to drive when under the influence of alcohol), and how your child can avoid them.

Providing education that teaches skills is important

As a result, road safety education should focus on building important life skills relevant to the road environment. These include improving self-esteem, resisting external pressures (e.g. peer pressure), effective communication, and increasing assertiveness.

Young adolescents should be taught to recognise and respond appropriately to impulses that may lead them to engage in poor road safety behaviour.

Road safety education should also continue to build upon previous skills taught about how to navigate on and around roads safely as a bike, scooter or skateboard rider, including the need to wear a helmet. Safe pedestrian behaviour, for themselves and others, should also be emphasised.

References



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