

# **Car seat safety:** **Are Australian** **children safe?**



## **Poll report**

Poll 14, May 2019

Dr Anthea Rhodes, Director

### **Report highlights**

- Two thirds (63%) of children aged seven to 10 years travel with an adult seatbelt without a booster seat, even though the majority of these children are below the recommended height to safely use only an adult seatbelt
- Half of children (47%) aged between seven and 12 years travel in the front seat of the car, even though children in the front are twice as likely as children in the back seat to be injured in a crash
- Two thirds (63%) of children are in a forward-facing car seat by 18 months of age despite recommendations that it is safer to travel rearward-facing until at least two years of age
- Only 3% of parents know that children should be at least 145cm tall to safely travel with an adult seatbelt without a booster seat

Australian parents (n=1620) were asked a series of questions about their knowledge, attitudes and behaviours in relation to use of child restraints and booster seats when travelling in the family car. Questions explored parent understanding of the safety and appropriateness of various child restraints, as well as factors that influence restraint use. Information was also collected on whether children travel in the front or back seat of the family car.

## Background

Different types of car restraints are recommended to safely restrain children of different sizes (see *figure 1*). This sizing is typically indicated by the position of the child's shoulders relative to shoulder marker guides. However, despite this emphasis on 'size', most child car restraint recommendations are made with reference to 'age'.

There is considerable discrepancy between current law (which is age-based) and recommended best practice

for the safe restraint of children in cars in Australia (which is size-based). For example, from age seven onwards it is legal for children to travel with an adult seatbelt without a booster seat. However, the safest practice recommendation is that a child remain in a booster seat until they are tall enough to achieve good adult seatbelt fit.<sup>1</sup> Safe adult seatbelt fit is generally achieved when children reach 145cm in height (at approximately 11 years of age) or as determined by the five-step test.

## Car seat types – current laws and recommended safest practice



### Rearward-facing car seats

**Law:** The law requires that babies travel in a rearward-facing restraint (car seat or capsule) until at least six months of age.

**Safest practice:** Babies and infants are safer if they stay in a rearward-facing car seat for as long as possible, ideally until at least two years of age or their shoulders are above the height markers on the restraint.<sup>1</sup> Rearward-facing seats are safer for babies because they more fully support the baby's head and neck.



### Forward-facing car seats

**Law:** Children are required by law to use a forward-facing car seat until at least four years of age.

**Safest practice:** It is safest for a child to travel in a forward-facing car seat with an inbuilt harness until they have outgrown the seat; that is until their shoulders are above the height markers on the restraint.<sup>1</sup> For many children, this will be well beyond age four years.



### Booster seats

**Law:** It is a legal requirement for children to use a booster seat until at least seven years of age.

**Safest practice:** Booster seats are used with an adult lap-sash seatbelt to position a child so that the adult seatbelt can fit correctly. Once a child has outgrown their forward-facing car seat, it is recommended that children use a booster seat until they reach 145cm in height, or can pass the 5-step test.<sup>1</sup> For most children in Australia, this is at least 10 years of age. When children shorter than 145cm use an adult seatbelt without a booster seat, they are at increased risk of serious injury in a crash, due to the seatbelt not fitting correctly.



### Booster cushions

**Law:** While use of booster cushions is legal, booster cushions were removed from the 2010 Australian Child Restraint Standard and are no longer manufactured in Australia.

**Safest practice:** Booster cushions are not recommended for use because of safety concerns. They do not have a back support on them and cannot be anchored to the car.



### Adult lap-sash seatbelts

**Law:** It is legal for a child to travel with an adult lap-sash seatbelt without a booster seat from seven years of age.

**Safest practice:** An adult lap-sash seatbelt is designed for people who are at least 145cm tall. Most children do not reach 145cm in height until age 11 years. If a child under 145cm sits in a car with an adult seatbelt only, they are at risk of the seatbelt fitting incorrectly and resulting in injuries to the neck, spine, head, and abdominal organs in the event of a crash.

Figure 1.

## Which car seats are children using and at what age?

Parents reported that most Australian children from birth through to seven years are always restrained in either a car seat or a booster seat when travelling in the family car. From age seven onwards, children are transitioned out of car seats, into booster seats and ultimately into adult seatbelts only (see *figure 2*). At age eight years, the majority of children (56%) travel with an adult seatbelt without a booster seat, and by age 11 years this figure rises to 93% of children (see *figure 3*).

### The five-step test

The **five-step test** can help a parent decide whether a child is big enough to move to an adult seatbelt. Children are big enough to use adult seatbelts if they can do the following:

- Sit with their backs firmly against the seat back.
- Bend their knees comfortably over the front of the seat cushion.
- Sit with the sash belt across their mid-shoulder.
- Sit with the lap belt across the top of their thighs.
- Stay in this position for the whole car trip.

## Type of child restraint most commonly used when travelling in the family car, by age

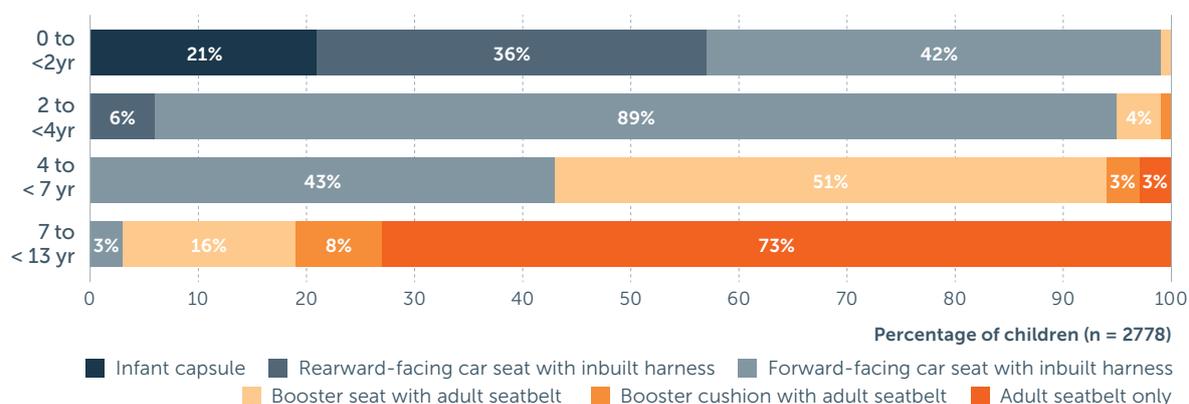


Figure 2.

## Proportion of children using car seats, booster seats and adult seatbelt only, age 7–12 years

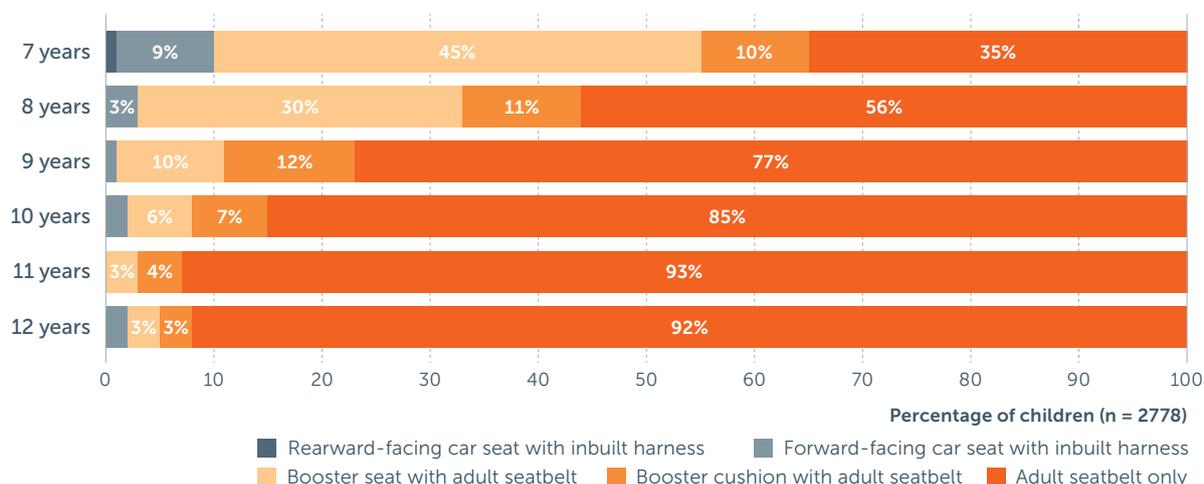


Figure 3.

## Are parents complying with the law when using car seats?

The findings in this poll suggest that the vast majority of Australian parents do comply with the law when it comes to using a car seat for their child; with all children under six months travelling rearward-facing, almost all children under four years travelling in a forward-facing car seat and almost all children between four and seven years using a booster seat or a forward-facing car seat (see *figure 2*).

## Are parents following safest practice recommendations for car seat use?

Unfortunately while most parents comply with the law, few parents report choices that reflect expert recommendations for safest car seat choices for children (see *figure 4*).

### Babies and toddlers are being transitioned from rearward to forward-facing car seats too early

Safest practice recommendations are for children to travel rearward-facing for as long as possible, ideally to at least two years of age. However, most parents are turning their children to travel forwards earlier than recommended, with the majority of children aged between six months and two years (47%) travelling in a forward-facing car seat (see *figure 4*). The most common age for parents to turn children to first travel facing forward is between six and 12 months.

## Children being transitioned out of booster seats too early

The poll findings show that the majority of children aged from seven to 10 years of age are being transitioned out of a booster seat earlier than is recommended for safest practice (see *figure 4*), putting them at significantly increased risk of serious injury or death in the event of a crash.<sup>1</sup>

Sixty-nine per cent of children aged between seven and 10 years are restrained by only an adult seatbelt (i.e. no booster or other car seat) when travelling in the family car, including a third (35%) of seven year olds, more than half (56%) of eight year olds and over three quarters (77%) of nine year olds (see *figure 3*). Based on population norms, fewer than 10% of nine-year-old children are over 145cm tall, suggesting that a concerning number of children are travelling in an adult seatbelt without a booster seat, despite being too short to safely do so.

The most common age for first travelling without a booster seat was seven years (35%) followed by eight years (28%). Only one in 10 (11%) children were 10 years or older when first travelling in the family car without a booster seat, suggesting the vast majority of children are being transitioned out of the booster seat much earlier than recommended as safest practice.

## Car seat use – proportion of children meeting legal requirements versus safest practice recommendations

Age	Meet legal requirements %	Follow safest practice %
0 to less than 6 months	100	100
6 months to less than 2 years	100	47
2 years to less than 4 years	95	95
4 years to less than 7 years	98	95
7 years to less than 11 years	100	27

**Note:** Only children aged 7 to less than 11 years who are in a forward-facing seat or booster are considered to meet safety recommendations. A minority of children aged 10 will be able to be safely in an adult seatbelt as they are 145 cm.

Figure 4.

**Only 3% of parents** know that children should be 145cm tall to safely travel with an adult seat belt without a booster seat

**Parents lack knowledge about safest practice recommendations for transitioning out of a booster seat into an adult seatbelt**

Most parents report transitioning their child out of the booster seat into an adult seatbelt because they believe it to be both legal and safe, with the leading reasons given by parents being 'by law they were old enough to sit without a booster' (42%) and 'my child was tall enough to safely sit without a booster' (42%). Other reasons included 'my child was too grown up for a booster' (17%), 'my child reached the maximum weight recommended by the seat manufacturer' (15%) and 'my child did not want to sit in a booster' (14%).

This study suggests very low levels of parent knowledge of safest practice recommendations for transitioning out of a booster seat into an adult seatbelt. Most (71%) parents indicated that they did not know how tall a child should be to safely use an adult seatbelt without a booster seat, and among the 29% who reported knowing, only 11% actually got this correct – meaning only 3% of parents know that children should be at least 145cm tall to safely travel with an adult seatbelt without a booster seat.

Similarly, only 8% of parents reported knowing that, on average, children need to be close to 11 years of age to safely use an adult seatbelt without a booster seat.

**47% of children** aged 7–12 years travel in the front seat of the car

**Children travelling in the front seat of the car up to 12 years of age**

Children aged 12 years and under are much safer when travelling in the back (rear) seats of the car as compared with the front seats. This poll found that almost half of children (47%) aged between seven and 12 years travel in the front seat of the family car at least some of the time (see figure 5) suggesting a significant number of children are being put an increased risk of injury or death in the event of a crash.

By law, children aged four years old to under seven years old can only sit in the front seat if all of the back seats are taken by other passengers under seven years old, and they are required to be seated in a booster seat. Children who are older than seven years can legally travel in the front seat of the car, although expert safety recommendations are to keep them travelling in the back seats until at least 12 years of age.

Only 17% of parents indicated that the reason for their child travelling in the front seat is that all the seats in the back are taken by younger children. The leading reasons for having children travel in the front were that their parents believed they were 'old enough' (39%) and 'tall enough' (36%) to do so. One in four parents (25%) said they allow their child to travel in the front seat when the 'car trip is short'. Parent and child preference is the other main contributing factor, with a third (31%) of parents saying their child prefers to sit in the front and 11% saying they like their child to travel in the front with them.

**How often children aged 7 to 12 years travel in the front seat of the car**

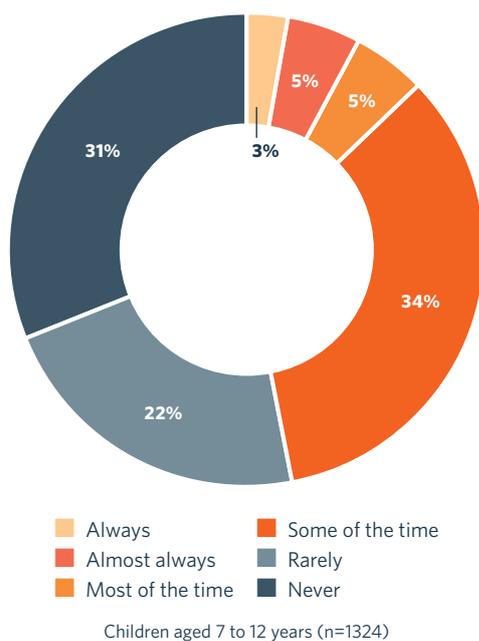


Figure 5.

Our findings show that many Australian children are **not travelling in the safest restraint or the safest position in the car**, putting them at significant increased risk of injury or death in a crash.

## Implications

Road traffic injury is the single biggest killer of Australian children under the age of 15 years, and a leading cause of disability. Many road traffic crashes, and the injuries they cause are preventable. Appropriately fitted and used child car seats are the single most important in-vehicle safety feature to protect a child from death and serious injury.

Current Australian laws relating to car seat use and position of travel for children in the car do not reflect evidence-based safest practice. Legal enforcement is an effective way to improve car seat usage and safety and this poll clearly demonstrates that parents comply with current laws when travelling in cars with their children. However, these findings also highlight very low level of awareness and poor compliance with safest practice recommendations where they differ from the current laws. Our poll findings show that many Australian children are not travelling in the safest restraint, or in the safest position in the car, primarily because parents are not aware of the safest practice recommendations.

Children aged seven to 12 years old are being left vulnerable to life-threatening injuries from car crashes due to inadequate use of car restraints and travelling in the front seat of the car. Adult seatbelts are designed to safely restrain a person of at least 145cm in height. Booster seats protect those children who are less than 145cm tall, by lifting them up so that the seatbelt fits better across the shoulder, chest and hips. Most children do not reach 145cm tall until close to 11 years of age, yet less than one in three children who would be safest in a booster seat are using one. Continuing booster seat use for children beyond seven and eight years of age may seem unnecessary to some parents, as most are not aware of safest practice recommendations. However, booster seats save lives and prevent serious injuries, not just for children aged four to six years but also for the vast majority of children aged seven to 11 years. Extending booster seat use by older children until they reach a height of at least 145cm, for example by

improving educational efforts for parents, may go some way to reducing child death and disability from road traffic crashes.

Front seat travel is another area of concern, with half of all children aged between seven and 12 years travelling in the front seat at least some of the time. Many parents believe their children to be old enough and tall enough to travel safely in the front seat. However, this is at odds with the safest practice recommendations, that all children up to 12 years of age to travel in the back seats. Children are one-half to two-thirds less likely to be injured in a crash if they are travelling in the back seat.

In light of the current weight of evidence of safest practice, a review of current laws relating to both child car restraints and front seat travel is warranted to address laws which may permit, and even encourage, unsafe practices. Current laws may need to be updated to reflect the expert recommendations for safest use, if we are to reduce the number of preventable child deaths and injuries seen as a result of crashes on our roads.

## Data source

This report presents findings from a nationally representative household survey conducted exclusively by the Online Research Unit for The Royal Children's Hospital, Melbourne. The survey was administered from January 30 to February 25, 2019, to a randomly selected, stratified group of adults aged 18 and older (n=1620). All respondents were parents or caregivers to children aged between one month and less than 13 years. Respondents provided data on a collective total of 2,743 children aged between one month and less than 13 years. The sample was subsequently weighted to reflect Australian population figures from the Australian Bureau of Statistics. Among Online Research Unit panel members contacted to participate the completion rate was 77%.

## References

For full reference list please contact:

[child.healthpoll@rch.org.au](mailto:child.healthpoll@rch.org.au)

1. *Neuroscience Research Australia and Kidsafe Australia: Best Practice Guidelines for the Safe Restraint of Children Travelling in Motor Vehicles*. Sydney: 2013
2. Arbogast KB, Kallan MJ, Durbin DR. Front versus rear seat injury risk for child passengers: evaluation of newer model year vehicles. *Traffic Inj Prev*. 2009 Jun;10(3):297-301. doi: 10.1080/15389580802677799.

## Suggested citation

The Royal Children's Hospital National Child Health Poll (2019). Travelling to school: Habits of Australian families. Poll Number 13. The Royal Children's Hospital Melbourne, Parkville, Victoria.