National Best Practice Guidelines

Safety of Children in Motor Vehicles

A guide for parents, carers, and road safety practitioners

Kidsafe
Child Accident Prevention Foundation of Australia

NeuRA
Discover. Conquer. Cure.

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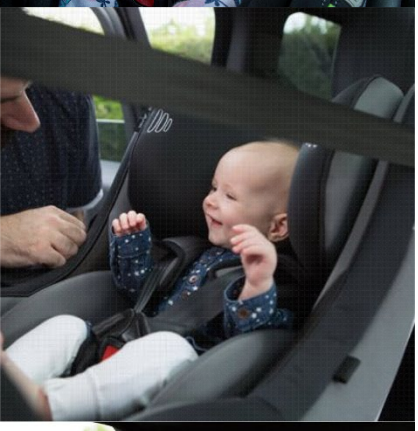
Disclaimer

This document is a general guide to appropriate practice, to be followed subject to the specific circumstances of the family, child and vehicle in which the child is travelling. The guide is designed to provide information to assist decision-making and is based on the best available evidence at the time of development of this publication.

Copies of this document can be downloaded from:
http://www.kidsafe.com.au/crguidelines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Acknowledgements

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Additional document images provided through in-kind support from:

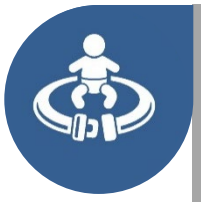
Overview

How to keep children as safe as possible while travelling in motor vehicles

TOP 10 Steps for safer travel

1. Always buckle up

The use of any restraint is preferable to not using a restraint.



2. Rear facing as long as they fit

Infants are safest if they remain in their rear facing restraint as long as they still fit in it.

3. Inbuilt harness as long as they fit

Once a child is too tall for their rear facing child restraint, they should use a forward facing child restraint with an inbuilt harness as long as they still fit in it.

4. Booster seat as long as they fit

Once a child is too tall for a forward facing child restraint, they should use a **booster seat with a lap-sash seat belt** until they are tall enough to fit properly into an adult seat belt.

5. Seatbelt? Check 5

Have you taken the ***5 step test***? Your child will fit the seat belt in different cars at different ages. Does your child meet the *5 step test*? If not they should remain in their booster seat.

6. Correctly fitted and adjusted

All child restraints and booster seats must be installed correctly and the child buckled in correctly, according to the manufacturer's instructions.

7. Safest in the back seat

Children 12 years of age and under are safest in the rear seat.

8. Is your car right for the job?

When planning any journey with children, use a motor vehicle which allows each child to be in the appropriate restraint for their size.

9. Accessorize correctly

Never add accessories to the restraint that were not provided by the manufacturer with the restraint.

10. Regular car seat check ups

Check your restraint regularly to ensure it is still installed correctly and adjusted for the child – an accredited restraint installer can help with this.

About these Guidelines

Background

These guidelines were developed through a partnership between Kidsafe Australia and Neuroscience Research Australia, supported by a panel of child road safety experts. They were approved by the National Health and Medical Council of Australia in November 2020. Full details are available from:

http://www.neura.edu.au/crs-guidelines

The aim of these guidelines is to provide parents, carers, and road safety practitioners with clear advice on optimal use of child restraints and seat belts by children aged 0-16 years when travelling in motor vehicles, to minimise their risk of injury in the event of a crash.

The laws in all Australian states and territories outline the minimum child car restraint requirements for all children up to the age of 16 years. The available evidence shows that there is more that can be done above and beyond these minimum requirements, to minimise injury to child passengers, by encouraging best practice child restraint use.

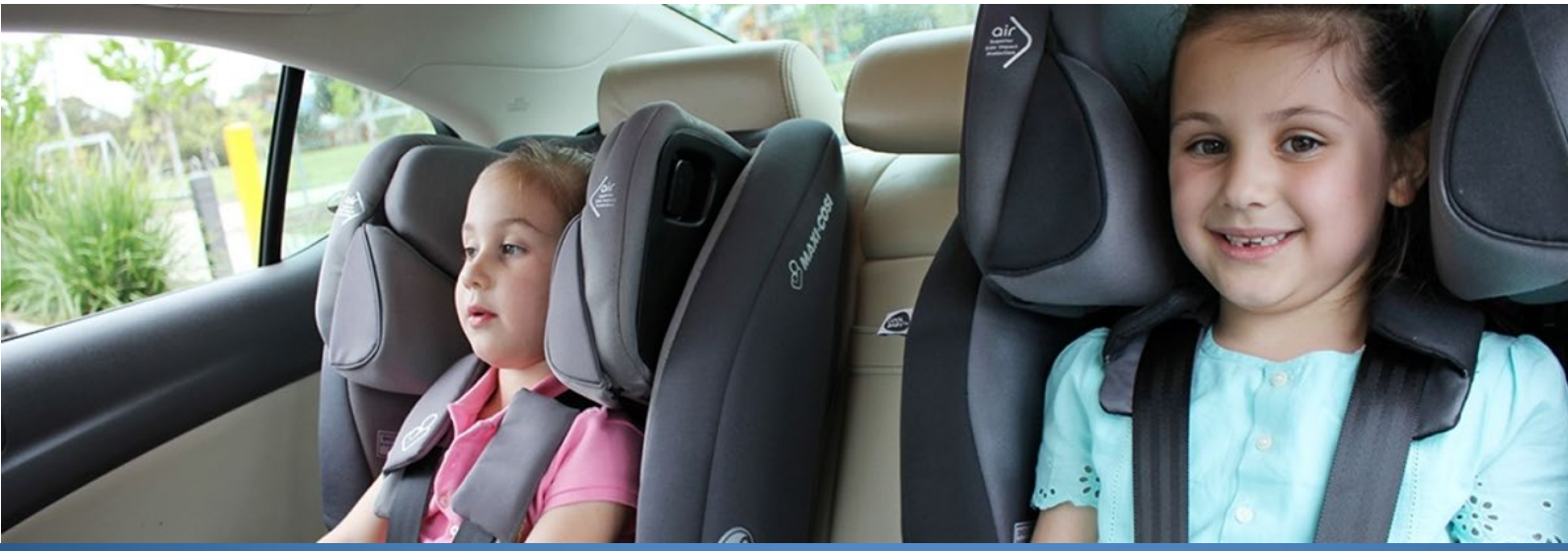
This resource sets out what can be done by those responsible for transporting children in motor vehicles to ensure their optimal safety.

The advice is based on a thorough review of published studies, within Australia and internationally, (*see www.neura.edu.au/crs-guidelines*) which examined:

- The safest restraint type for children of different sizes, and when a child should move from one restraint type to another;
- The safest seating position for children within a passenger vehicle, and how the presence of airbags might influence seating position choices;
- The safest way in which a child restraint or seat belt is installed and used.

Where the research was limited, the advice of a panel of national child restraints experts considered the situation and a “best practice” recommendation is provided.

As more research becomes available, some of these recommendations may change. But at the time of publication, they represent the best advice based on the scientific research available.



What is not covered

These guidelines do not cover:

- Restraint practices for children with a disability or other additional needs, whether these are physical, medical, or behaviours of concern. Case-by-case assessment of these children is recommended. The Australian Standard covering child restraint practices for children with a disability or medical condition, AS/NZS 4370, is available to guide practices for children with additional needs.
- The use of child restraints while not in motor vehicles, such as in travel stroller systems, for sleeping, or transporting a child outside the vehicle.
- Travel on other motorised vehicles, including motorcycles (which is illegal for children under 8 years of age in most states), planes, quad bikes and other forms of transportation.
- Advice on implementing these best practice guidelines, including the challenges of remote communities where optimal resources for transportation and child restraints may not be available.

Guidelines resources

This resource contains a lot of detailed information that people who are responsible for children travelling in motor vehicles should take the time to read. To help digest it all, the overview page (see page 5) provides a summary of the 10 most important things that can help keep a child safe in the event of a crash.

Copies of all the Best Practice Guidelines publications, videos and social media messaging visit the Kidsafe www.kidsafe.com.au/crguidelines or NeuRA websites http://www.neura.edu.au/crs-guidelines.

Document symbols

There are some common symbols used throughout this publication to help you navigate the information:

Minimum Legal Requirements

Why this is Important?

What are the different types of child restraints?

These are the most common types of restraints that are currently available in Australia for children to use in cars. If present, shoulder height markers on a restraint are the best guide to when a child fits into that restraint[1].

Rearward Facing Child Restraint

A restraint with a built-in harness, where the child faces the rear of the car.

Type A in the Australian Standard

Also known as: Baby capsule, infant restraint, baby carrier.

NOTE:
Rearward facing child restraints come in three categories, with:

Type A1 for children up to 70cm tall (approximately 6-9 months),

Type A2 for children up to 80cm tall (approximately 12 months), and

Type A4 for children up to approximately 2-3 years of age.

Forward Facing Child Restraint

A child restraint with a built-in harness where the child faces the front of the car.

Type B & G in the Australian Standard
Also known as: Child safety seat, harnessed restraint.

NOTE:
Type B forward facing restraints accommodate most children up to at least 4 years of age, and

Type G forward facing restraint accommodate most children up to approximately 8 years of age.

Booster Seat

A child restraint that boosts the child up and positions the adult lap-sash seat belt properly over the child's hips and shoulder.

Type E & F in the Australian Standard
Also known as: Belt positioning booster, Booster cushion

NOTE:
Booster cushions are boosters without the back and side wings that protect the child's head.

They are being phased out, except for those integrated or built into cars.

[1] Older child restraints may not have these shoulder height markers and selection guidance for these is given on page 12 & 13

Convertible Restraint
A child restraint that combines two or more of the above categories.


Rearward / Forward Facing Combination


Forward Facing / Booster Combination

NOTE:
Convertible restraints include:
Restraints suitable from Birth up to approximately 4 years of age (Type A and B); and
Restraints from approximately 12 months to 8 years of age (Type B and E).
Convertible restraints also include restraints suitable from Birth up to approximately 8 years of age.
These combine a rearward and extended forward facing option (Type A and G); or
a Rearward / Forward facing and booster seat combination (Type A, B and E).

Seatbelts

Lap sash seat belt

A seat belt in the car that has both a part of the belt that goes across the lap and part that goes over the shoulder.

Also known as: Lap and shoulder belt, 3 point seat belt.

Lap only seat belts

A seatbelt that has no sash or shoulder part and only restrains the hips.

Also known as: 2 point seatbelt.

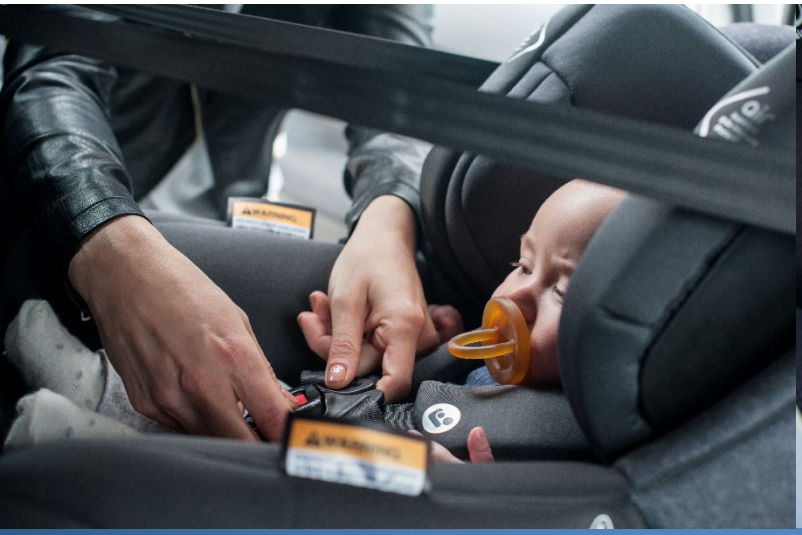
Recommendations for keeping children as safe as possible

These outline the ***safest*** practices for children travelling in cars. There are also minimum legal requirements that must be followed, and these are listed below the best practice recommendations and are marked with '✋' symbol.

General points – for all ages

Recommendation	*Why this is important*
1. **The use of any restraint is preferable to not using a restraint.** (R1.1)	*Most injuries happen when part of a child's body hits something rigid. Restraints prevent the child from being thrown out of a car and from hitting rigid parts of the car. They also distribute crash forces to the strongest parts of their body.* *While different types of restraints are associated with different levels of protection (depending upon the size of the child), overall there is strong evidence that a child wearing an appropriate restraint has a 30-96% lower risk of serious injury in the event of a motor vehicle crash than an unrestrained child.*
2. **Never restrain two or more people in a single restraint.** (CBR1.3)	*When children (and/or adults) share restraints including seat belts, neither is properly protected, and they can injure each other in a crash.*
3. **Consider whether the restraint you intend to purchase will accommodate your child for the full duration that they are recommended to use it. This is particularly relevant for booster seat purchases, as not all booster seats will accommodate children until they achieve good adult seat belt fit.** (PP5)	*Some restraints accommodate taller children, and you will get more use out of them, rather than having to buy another restraint later on. This is particularly true for booster seats, as children will grow out of some non-adjustable boosters well before they can safely use an adult belt, requiring purchase of another booster.*

✋ **Minimum legal requirement:** Every person in the vehicle must have their own seat and their own restraint. It is against the law to share seat belts, or sit on another person's lap#.



Moving a child from one restraint stage to the next

Recommendation	*Why this is important*
4. Keep each child in their current restraint until they outgrow it. Don't be in a hurry to move them into the next stage restraint.	*Restraints are designed to maximally protect children based on their development and size, with increased protection offered for the earlier years. When buying a restraint, parents should look at the one that allows their child to use it for as long as possible, particularly when the child is taller than average.*
5. When using convertible restraints (which have two or more modes, e.g. rearward and forward facing, or forward facing and booster seat) use the mode designed for younger children as long as they fit in that mode. (CBR1.4)	*A child will get better protection in the 'younger' mode if they still fit in that mode.*
6. Exhaust all options for restraints in the child's 'recommended' category before transitioning them to the next category of restraint. (CBR1.3)	*When a child exceeds the size limits of one particular model of restraint, there may be other restraints available in that category that accommodate that child's size, which would provide better protection than progressing to the next category of restraint.*

From birth

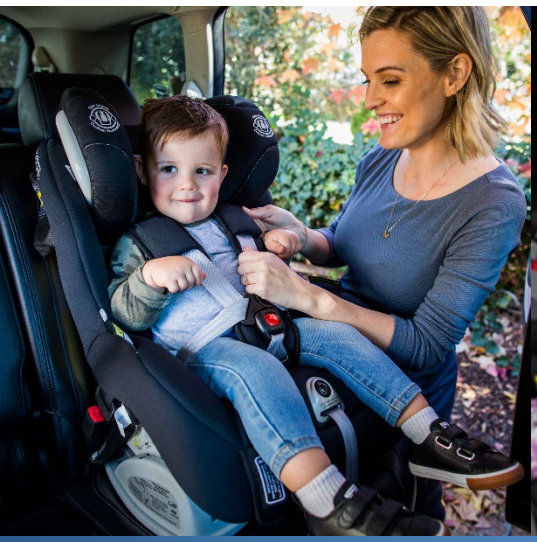
Recommendation	*Why this is important*
7. From birth, children should use rearward facing child restraints for as long as they fit in them. (R1.5) - For older restraints which do not have shoulder height markers, the sign of the child having outgrown the restraint is when the child's shoulders are above the top shoulder harness slot for rear facing use. - For restraints with shoulder height markers, the sign of the child having outgrown the restraint is when the child's shoulders are above the upper shoulder height marker for rearward facing restraint use.	*Rear facing restraints are highly effective in preventing injuries if used correctly, because they fully support the child's head and neck in the event of a crash. This is important as infants have relatively large heads and weak necks which put them at particularly high risk of serious injuries if the head and neck are not supported.* *Rearward facing restraints support the child's head and neck in severe frontal crashes better than forward-facing restraints.*
8. Restraints designed for extended rearward facing use up to approximately 2-3 years of age are now available. These are an acceptable alternative to use of a forward facing child restraint for children who fit in them. (CBR1.6) - For these restraints the sign of the child having outgrown the restraint is when the child's shoulders are above the upper shoulder height marker for rearward facing restraint use.	*There is currently no evidence to support a recommendation to either encourage or discourage the use of these restraints compared to properly used forward facing child restraints for children who have outgrown a Type A2 rear facing restraint (A2 restraints are used up to approximately 1 year of age)..*

Minimum legal requirement: Children under 6 months must be restrained in an approved rearward facing restraint that is properly fitted to the vehicle and adjusted to fit the child's body correctly.

When they outgrow their rearward facing child restraint

Recommendation	*Why this is important*
9. Children, should use forward facing child restraints with an inbuilt 6 point harness (Type B) from the size that they outgrow their rearward facing child restraint for as long as they fit within them. (R1.7) - For restraints certified to AS/NZS 1754(2004) or earlier which do not have shoulder height markers, the sign of the child having outgrown the restraint is when the child's shoulders are approximately 2.5cm above the top shoulder harness strap slot for forward facing use. - For restraints certified under AS/NZS 1754(2010) or later, the sign of the child having outgrown the restraint is when the child's shoulders are above the upper shoulder height marker for forward facing restraint use.	*Numerous studies provide evidence that forward facing restraints, particularly those with top tether straps, as required in Australia, better protect children than an adult seat belt during a crash, all the way up to the age of 6 (and in some studies, older).* *Children are best protected if the restraint straps spread the crash forces over the body, and the built-in harness in forward-facing restraints can do this better than booster seats or seat belts. Also, young children's hip bones are not developed enough to hold a seat belt down securely in a booster seat or seat belt.*
10. Restraints designed for extended forward facing use up to approximately 8 years of age are now available. These are an acceptable alternative to use of a forward facing child restraint for children who fit in them. (CBR1.8)	*There is currently no evidence to support a recommendation to either encourage or discourage the use of these restraints compared to well-fitting high back booster seats for children too large for Type B forward facing child restraints (Type B restraints are used up to approximately 4 years of age).*

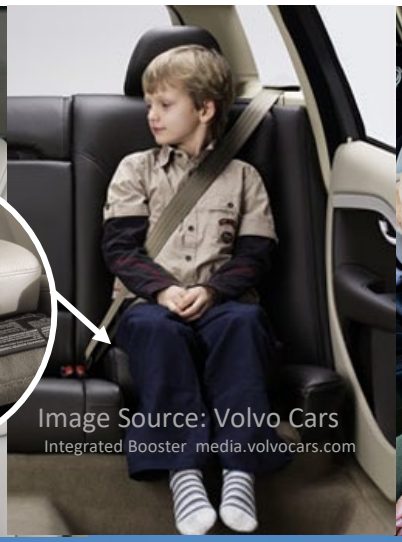
Minimum legal requirement: Children from six months until they turn four years of age must be restrained in either a properly fastened and adjusted approved rearward facing child restraint or properly fastened and adjusted approved forward facing child restraint with a built-in harness.



When they outgrow their forward facing restraint

Recommendation	*Why this is important*
11. Once a child has outgrown their forward facing child restraint, they should use a booster seat until they can no longer fit in it or can achieve good seat belt fit as assessed by the '5 step test' in the vehicle they are riding in. Most children up to 10-12 years of age will require a booster seat to obtain good seat belt fit. (R1.9)	*In a crash, booster seats reduce the risk of serious injuries to children too small for adult seat belts, by positioning the belt where it is safest - over the bony areas of the shoulder and pelvis rather than the neck or abdomen. Poor lap belt fit increases the risk of abdominal and head injuries. Poor shoulder belt fit increases the risk of neck injuries.*
12. High back booster seats are preferable to low back booster cushions. (R1.11)	*Booster seats with high backs and side wings offer greater protection for the child's head in a side impact crash, and are better at keeping the seat belt in the correct position, even if a child falls asleep.*
13. Booster seats should be used with lap-sash seat belts, and the belt must not be worn under the arm or behind the back. (R1.10)	*Lap-only belts (and lap-sash belts if the shoulder part of a lap-sash belt is not used properly) allow the upper body to be thrown forward in a crash. The shoulder part of the belt restrains the chest, and spreads the crash forces over a larger body area reducing injuries to the abdomen, head and spine.*
14. For children aged 4-8 years, add on high back boosters are preferred over integrated booster seats. **For children older than 8 years, integrated boosters are suitable for use in seating positions adjacent to a curtain airbag.** (R2.11)	*Based on the evidence available it is preferable for children aged 4-8 to use add-on boosters, as these provide postural support, may reduce movement of children into out-of-position postures, and offer more proven protection for children who fit within them.* *Children older than 8 years who cannot achieve adequate seat belt fit without a booster seat are safer in a booster seat that is part of the vehicle, where that vehicle has a curtain airbag to protect their head. Integrated boosters should only be used in accordance with the vehicle manufacturer specifications for the child's size (height or weight).*

Minimum legal requirement: Children aged between 4 and 7 years must be restrained in an approved forward facing restraint or booster seat that is properly fitted to the vehicle and adjusted to fit the child's body correctly.



Older children in an adult seat belts

Minimum legal requirement: Children aged 7 years and older must be restrained in child restraint/booster seat or a seat belt that is adjusted to fit the child's body correctly.

Recommendation	*Why this is important*
15. The "5 step test" should be used to determine whether a child is big enough to obtain optimal protection from an adult seatbelt in a particular vehicle. (CBR1.12)	*When a child's legs are too short for the seat base, they slouch down in the seat, the lap belt rides up over their abdomen and the shoulder belt can sit across their neck. For children who still fit in a booster seat, risk of serious injury can be increased up to 3.5 times if they don't use the booster seat because the adult belt doesn't fit properly.* *A child gets good seat belt fit if the answer to **all** the questions in the box below (the "5 step test") is **yes**.*
16. Children in seatbelts should use lap-sash seatbelts rather than lap-only seatbelts whenever possible. (R1.13)	*Lap-only belts (and lap-sash belts if the shoulder part of a lap-sash belt is not used properly) allow the upper body to be thrown forward in a crash. The shoulder part of the belt restrains the chest, and spreads the crash force over a larger body area reducing injuries to the abdomen, head and spine.*
17. Where a seating position with a lap only belt might be used regularly, retrofitting of a lap-sash seat is recommended if this meets local engineering requirements. (CBR1.14)	*Retrofitting a lap-sash seatbelt to a lap-only seat position is the best solution, as it offers all people who sit in this position the protection of a lap-sash seat belt, and this is possible for many vehicles, albeit at a significant cost.*

Seat belt? Check 5

*Have you taken the **5 step test?***

BODY

Back against seat back
Knees bend over front of seat

SEAT BELT

Lap belt low and touching thighs
Sash belt over middle of shoulder

STAY

Stay in this position for the whole trip.

Yes to all = seat belt ready

1. Back: *Can the child sit all the way back against the vehicle seat back?*
2. Knee: *Do the child's knees bend comfortably in front of the front edge of the vehicle seat?*
3. Lap belt: *Is the lap belt sitting low across the hip bones touching the thighs?*
4. Sash belt: *Does the sash (shoulder) belt sit across the middle of the shoulder, not on the neck or out near the arm?*
5. Stay: *Can the child stay seated like this for the whole trip*

Choosing the safest seating position

Recommendation	*Why this is important*
18. Children 12 years of age and under should sit in a rear seating position. (R4.1)	*Injury risk to children aged 12 and under is nearly double in the front seat compared to the back seat, irrespective of restraint type.*
19. When choosing where to place a child using a child restraint or booster in the rear seat, the safest choice of seating position will have as many of the following as possible: (CBR4.2)	*Choosing the safest seat position in a motor vehicle for a child is not straightforward, particularly when there is more than one child and all their needs must weighed up to make it as easy as possible for all children to be appropriately and correctly restrained on every trip.*
a. The anchorage points needed for the child restraint (top tether and lower ISOFIX anchorage points, if relevant) are available.	*Rearward and forward facing restraints (and some booster seats) need to be installed with a top tether, so the location of these needs to be considered when choosing where to install these restraints.* *If installing a restraint with ISOFIX lower anchorages instead of a seat belt, the location of these also needs to be considered.*
b. There are no potential interactions with other child restraints installed, or space required for other restraints.	*Children can be injured by hitting another child's restraint or part of another restraint, so try to arrange children so that one child's restraint does not impinge on another's space. For example, avoid large side wings from one restraint overlapping a seat belted child's space.*
c. For children in seatbelts or booster seats, the seatbelt buckle is readily accessible.	*In case of an emergency, it's important to be able to quickly release a seat belt. It's also easier to buckle the child correctly if the seat belt buckle is accessible.*
d. If lap-sash seat belts are not available in all seating positions, lap-sash belts should be prioritised for the children in booster seats or seat belts alone.	*For seatbelt and booster users, lap-sash belts are safer than lap-only belts, while forward facing and rearward facing child restraints can be safely installed with lap only belts if there is a suitable top tether anchorage.*
e. The top tether strap is not able to fall off the side of a single seat or into a gap between seat back sections such as if there is a split-folding seat.	*The top tether strap needs to able to securely stop the restraint from moving forward in a crash, so if the strap can fall in a gap or off the side of a seat back, it cannot do its job properly.*
f. The seating positions and restraint types do NOT compromise the safety needs of other occupants. g. Easy and safe access to the child restraint, for the parent to correctly secure the child in the restraint.	*For families with more than one child, the location of each restraint is likely to be influenced by how well the restraints fit in different seating positions, and how the restraints fit relative to each other, and also how easily seat belt buckles (for seat belt or booster seat users) can be accessed for correct use of the restraints.*
h. Easy and safe entry and exit of the child from the vehicle on the kerb side of the vehicle.	*To reduce the risk of either the carer or the child being hit by a passing vehicle, avoid the road-side seating positions if possible, and encourage older children to enter and exit on the kerb side.*

Recommendation	*Why this is important*
20. When choosing the position of a child using adult seat belts in the rear seat, these issues should be considered: (CBR4.3) a. Whether there is a lap-sash seatbelt in the seating position to be used. b. The child should achieve a good seat belt fit (see "5 step test") in their chosen seat position. c. Access to the seat buckle should be easy, if other children using child restraints are in the rear seat. d. Ease and safety of the child's entry and exit from the vehicle	*While being in the centre seat reduces the risk of injury in a side-impact collision, this benefit disappears if there is no lap-sash belt in the centre position. On balance, the presence of a lap-sash belt is more important than the position in the rear seat.* *Seat belt fit may vary in different seating positions due to the seat shape and seat belt anchorage locations for middle and outboard seats.* *Clear access to the seat belt buckle helps to make it easy for the child to correctly buckle the belt. If there are other child restraints in the car, they can make this difficult, and the positions of restraints may be able to be relocated to minimise the difficulty.* *To reduce the risk of the child being hit by a passing vehicle encourage older children to enter and exit on the kerb side.*
21. If it is unavoidable for a child to sit in the front seat with a passenger airbag, the seat should be pushed back as far as possible. (CBR4.4)	*Pushing the seat back as far as possible maximises the distance between the child and the airbag – reducing the interaction between the child and the airbag.*

Minimum legal requirement: All children aged 0 to 4 years must sit in a rear seating position in a vehicle with two or more rows of seats. Children aged 4 to 7 years can only sit in the front seat if all rear positions are occupied by younger children.

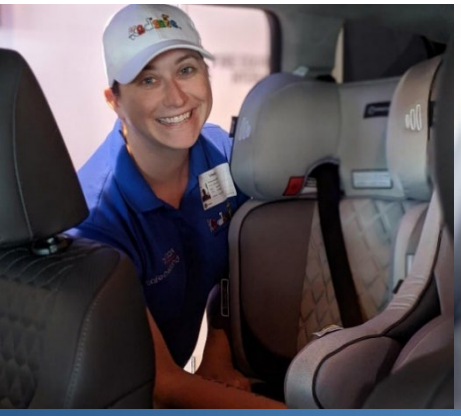
When an airbag or other active safety device is present

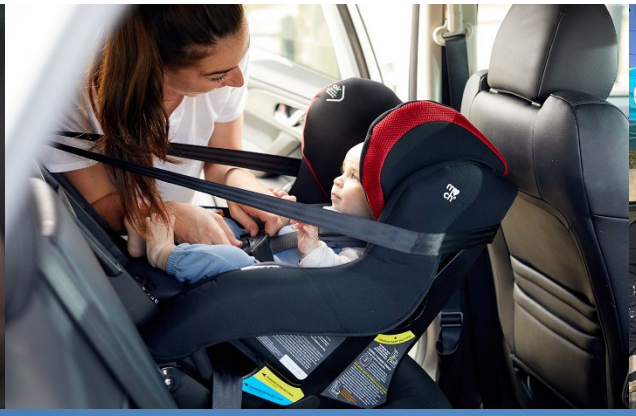
Recommendation	*Why this is important*
22. Rearward facing child restraints should not be used in the front seat where an active front passenger airbag is present. (R5.1)	*Airbags inflate explosively fast in crashes, to protect adult occupants, and in some cases this has caused fatal head and neck injuries to infants in rear facing child restraints, whose head is immediately in line with the airbag as it deploys.*
23. Forward facing child restraints and booster seats are not recommended to be used in seating positions where an active front passenger airbag is present. (CBR5.2)	*Airbags can also increase the risk of injury to children in other restraints, as they are designed for adults. Because most Australian cars (other than those with no rear seat) don't have top tether anchorages in front seats, child restraints usually must be installed in the rear seat.*
24. It is not recommended that children up to and including 12 years of age sit in the front seat of vehicles where active airbags are installed. (R5.4)	*Children 12 years and under in the front seat are at greater risk of injury than adults due to air-bag deployment and, as stated earlier, are at lower risk of serious injury and death in the rear seat than in the front seat with a passenger airbag. Hence the rear seat is the safer option, particularly when there is a front seat passenger airbag.*
25. If it is unavoidable for a child to sit in the front seat with a passenger airbag, the seat should be pushed back as far as possible. (CBR5.3)	*Pushing the seat back as far as possible maximises the distance between the child and the airbag – reducing the interaction between the child and the airbag.*
26. Children should sit upright and should not rest any part of their body on or near where an airbag will inflate. **a.** Older children in the front seat, should not rest their feet on the dashboard where the passenger airbag comes out. **b.** In cars with curtain airbags that come out of the roof rail above the side window, children should not rest any part of their body (particularly the head) on the window or sill. (CBR5.5) **c.** In cars with torso airbags that deploy from the side of the vehicle seat or door panel in side crashes, children should not rest any part of their body (particularly the head) on the door. (CBR5.6)	*Airbags inflate explosively fast in crashes, so it is safer for children to not have any body parts directly in their path.* *In recent years side airbags, including torso airbags and curtain airbags, have become more common. Curtain airbags are likely to provide protection for the heads of children and adults and there are no known dangers from these airbags provided they are not resting their body in the path of the airbag when it is triggered.* *Vehicle manufacturers provide guidance on airbag safety in the user manuals.* 
27. It is safe for children correctly using size appropriate child restraints and booster seats to sit in seating positions equipped with seat belt pretensioners. (R5.7)	*Seat belt pretensioners are active safety devices that operate when a crash is sensed to remove slack in a seat belt in the early stages of a crash. They often include a component that limits the maximum force that the seat belt applied to the chest (a load limiter).*
28. Child restraints should only be used in seating positions equipped with inflatable seat belts if BOTH the vehicle manufacturer and child restraint manufacturer approve its use. (CBR5.8)	*Child restraint manufacturers can advise whether their child restraints and booster seats are suitable for use with inflatable seatbelts. This advice varies, so it is necessary to check with the restraint manufacturer for each make and model of restraint regarding suitability of that specific restraint model for use in a vehicle with inflatable seat belts.*

Correct installation and use of child restraints

Recommendation	*Why this is important*
29. All child restraints and booster seats must be installed, according to the manufacturer's instructions: (R6.1) a. **Always** use a top tether strap for all rear facing child restraints and forward facing child restraints and booster seats that are equipped with them. All slack should be removed but never overtighten them as this will lift the restraint lifting off the seat. b. **Always** use the correct belt path for the restraint (following the colour coding on newer restraints) c. Be sure there is no slack or looseness in any of the belts anchoring the restraint to the car and avoid twists where possible. d. Check the seat belt buckle hasn't been unbuckled accidentally before every trip.	*The risk of life threatening injuries has been shown to be 4-6 times greater with incorrect installation or when the child is incorrectly strapped into the restraint. While some errors are more serious than others, a combination of even minor errors can increase the risk of injury significantly.* *Not using the tether strap, having the seatbelt or lower anchorage attachments unfastened, or having a loose tether or harness in a child restraint allows the child to move much further during a crash, or even come out of the restraint entirely.* *This means that they are much more likely to strike something rigid and be seriously injured.*
30. A child restraint or booster seat must be adjusted to fit a child correctly on every trip, according to the manufacturer's instructions: a. Make sure the built-in harness straps in rearward and forward facing child restraints are done up firmly so that any slack or looseness is removed. Twists in harness webbing should be avoided. (R6.2) b. For rearward and forward facing restraints, use the shoulder harness slot nearest to the child's shoulders (but not below them for rearward facing restraints, and not more than 2.5cm below for forward facing restraints). The harness needs to be adjusted as the child grows, either by changing the upper strap slots or raising the adjustable head rest. (R6.3) c. When using lap-sash seatbelts (with or without a booster seat), the sash belt should be positioned over the middle of the shoulder, and not be worn under the arm or behind the back. (R6.6) d. The belt path specified by the manufacturer should be followed exactly, and any features designed to position the lap or shoulder belt (e.g. armrests, clips, guides) should always be used. (R6.5)	 *Having the harness in a slot that is too low can allow the shoulders to come out of the harness in a crash and the child can be thrown forward and sustain serious head injuries. Having the straps too low can also apply high compressive forces on a child's spine.* *Some restraints have slots which require the physical straps to be disconnected then reconnected to change the shoulder height level. Others may have an easy adjust harness system allowing the shoulder slot position to change as the head rest is moved. However, not all restraints with adjustable head rests have easy adjust harnesses which will results in the harness being caught between headrest and restraint.* *Placing the sash belt under the arm provides no restraint for the upper body, and concentrates all the crash forces on a child's abdomen, similar to a lap-only belt, and this can cause head, abdominal and spinal injuries.* *The way the belt is routed in a booster seat, and the belt guides (both for the sash belt and the lap belt) are designed to hold the seat belt in the safest position to minimize injury in a crash. Putting the belt in a different location or not using the belt guides means the seat belt cannot do its job properly and can increase the risk of injury.*

Recommendation	*Why this is important*
31. Excess webbing from restraint tether straps should be secured and stored where it cannot fall out a car door or be reached by a child. (CBR6.4)	*Long tether straps can become entangled in the car's wheel if they dangle out the car door, jerking the restraint to the door and potentially causing injury. A child could also wrap the strap around their neck.*
32. Children should be encouraged to sit in an upright posture with their head back against the seat when traveling in vehicles, including when sleeping, as poor posture can increase the risk of injury. (R6.7)	*Poor posture can increase the risk of injury due to the reduced effectiveness of the protective devices designed for a child sitting upright (seat belts and airbags). While it is not always possible to ensure that children maintain good posture when travelling, it should be encouraged (without the use of supplementary restraint padding or accessories). However, drivers or passengers should not try to actively reposition a child while driving.*
33. Unoccupied child restraints should be secured to the vehicle. (CBR6.8)	*An unsecured restraint may become a projectile in a crash – and potentially cause a serious injury to occupants of the vehicle. Since forward and rearward facing restraints and some booster seats are installed with a top tether which secure them to the car, booster seats without tethers and booster cushions are the biggest concern.*
34. Approved restraints that are fitted with ISOFIX lower anchorages should be used as instructed by the restraint manufacturer in seating positions specified by the vehicle manufacturer. (R6.10)	*ISOFIX is a system of dedicated child restraint lower anchorage points, to which special attachments on the child restraint can be fastened. No recommendation can be made on the overall benefits of ISOFIX restraints compared to restraints installed using a seat belt. The top tether strap must always be used.*
35. When buying or hiring a restraint, carers should test the fit of the restraint in their vehicle before purchase. (CBR6.9)	*Not all restraints fit well in all vehicles, due to the location of the seat belt and the shape of the vehicle seat. Also, some vehicles have shorter seat belts and may not accommodate some larger restraints. To ensure compatibility with your car and correct installation, first try the restraint in your car.*
36. Regular checking of restraint installation and securing of a child in the restraint by a child restraint fitter is recommended. Those transporting children should regularly check the restraint installation and fit of the child in the restraint themselves. (R6.11)	*The use of an accredited restraint fitting station has been shown to halve incorrect use of restraints. If accredited fitters are not available where you live, studies show other types of hands-on restraint fitting advice reduces incorrect use. More regular restraint inspections reduce the chance of using a restraint incorrectly. When changing a convertible restraint from one mode to another, a restraint fitter can help ensure it is converted correctly. Parents and carers should check the restraint each trip to make sure nothing has accidentally come unbuckled.*





Safe restraint use in less typical situations

Taxis, private hire cars, ride share and rental cars

Recommendation	*Why this is important*
37. For optimal safety, children should use the recommended restraint for their size when travelling in taxis, private hire cars, ride share services, and rental cars. (CBR2.1 & 2.2)	*The safety issues when travelling in any vehicle are the same, irrespective of whether the vehicle is a taxi, rental car, or a private vehicle, so the safest option is to follow the best practice recommendations in all vehicles, even if the laws may not require it.* *While the normal laws apply in rental cars, in taxis and some ride share services, the service driver may not be required to check that your child is appropriately restrained.*

Minimum legal requirement: In all states and territories, drivers of rental cars have the same requirements for compliance with child restraint laws as other cars. However, different laws apply to different states and territories regarding child restraint requirements in taxis and ride share services (eg. Uber). The table below provides a summary of the minimal legal requirements.

Vehicle	Restraint and Seating Position
Taxi & Public minibus	If a suitable approved child restraint is available, it must be used. If no suitable approved child restraint is available in the vehicle: • All children under 7 must travel in rear seating positions (cannot be in the front row) • A child aged under 1 year may be seated on the lap of a passenger who is 16 years or older • A child aged 1 to 7 years must wear an approved seatbelt that is properly adjusted and fastened to the best extent possible given the child's size.
Ride share vehicles eg. Uber	In many jurisdictions, ride share vehicles are considered to be private vehicles, so currently all children under 7 must be restrained as per the requirements in a private vehicle. However in some jurisdictions, the Taxi requirements may apply. It is important to be aware of the requirements in the relevant State/Territory.
Tow trucks	As per requirements for Taxis & Public minibuses, but only when the vehicle the child was travelling in is being towed by the tow truck as it has broken down or been involved in a crash.

Public Transport

Recommendation	Why this is important
38. On urban public buses, children should be seated in their own seating position when possible and use seat belts if available. (CBR2.12)	*The seat in front of where a child sits can provide some restraint, and can reduce the risk of being sandwiched between a seat and another occupant.*
39. On long distance coaches, where child restraint anchorages and seat belts are fitted, children should use their size appropriate restraint, correctly installed. If these seats are not available, children over 1 year of age should use a lap-sash seat belt. (CBR2.13)	*As noted in the first recommendation any restraint is safer than no restraint. For this reason if a restraint option is available, then it should be used. Newer long distance coaches are required to have some places for child restraints.*
40. Children using community transport buses should use an age-appropriate child restraint, where possible. (CBR2.14)	*Smaller community transport buses have seats with child restraint anchorages and using the most appropriate child restraint in one of these is the safest option. Where this is not possible, or children are tall enough to get good seat belt fit, they should use a seat belt.*

Minimum legal requirement: In all states and territories, drivers of public transport buses and coaches are not required to ensure that children are restrained according to the child restraint laws. Community transport buses and passenger vans with 12 or fewer seats are required to follow the child restraint laws.

Troop carriers, vans and utes/utility vehicles

Recommendation	Why this is important
41. Child restraints are not recommended to be used in side-facing seats in "troop carriers" and similar vehicles. (CBR2.3)	*While little research has been done in this area, restraint manufacturers recommend against the use of child restraints in side-facing seating positions. Often there are no anchorage points for a child restraint, and restraints are designed to be used facing the front of the car. So, the need for the child to travel in a seating position that faces the side or rear of the car should be considered carefully. In addition, local regulations may consider installation of a restraint in any seating position other than one that faces the front of the car not to be a properly fitted approved child restraint, and thus illegal.*
42. Children should not travel in vans and other vehicles that do not have appropriate forward facing vehicle seats upon which the appropriate child restraint can be properly installed. (CBR2.4)	
43. Children should never travel unrestrained in vans, non-passenger parts of a vehicle, such as luggage compartments of station wagons, trays on utes, and trucks. (CBR2.5)	*Restraints prevent the child from being thrown out of a car and from hitting rigid parts of the car. They also distribute crash forces to the strongest parts of their body. A child wearing an approved restraint has a 30-96% lower risk of serious injury or death in the event of a crash than an unrestrained child.*

Additional seats

These are extra seats installed after manufacture in the cargo part of the vehicle (also known as “Dickie seats”).

Recommendation	*Why this is important*
44. Additional seats should only be used when a second row (or manufacturer installed) seat is not available. (CBR2.6)	*Seats designed as part the vehicle and their performance verified in crash tests are likely to offer the best protection.*
45. Follow the additional seat manufacturer’s recommendations on the suitability of the seat for the size of the child and/or use of child restraints. (CBR2.7 & 2.8) 	*Additional seats vary a lot in design, and the size of the child they are suitable for. A seat should only be used by a child in the size and weight range that it is designed for.* *Most additional seats are not suitable for children using child restraints (including booster seats). If you are in any doubt, check with your state road authority on the suitability of a particular additional seat.*
46. The ‘5 step test’ should be used to determine whether a child is tall enough to sit in an additional seat without a booster seat. (CBR2.9)	*As they are typically smaller than seats that come built into a car, some children may get good seat belt fit in these seats earlier than in the regular car seating position.*

Minimum legal requirement: If a child is between 4 and 7 years of age, and they are in a seat that is installed in the cargo part of the vehicle (as is the case with Additional or “Dickie” seats) and only a lap belt is available, then a child safety harness must be worn in conjunction with the lap belt. (CBR2.10)

Other considerations and restraint options

Old restraints

Recommendation	*Why this is important*
47. Restraints older than 10 years should not be used. (CBR2.15)	*Age, wear and tear can reduce the strength of the harness webbing in child restraints, which are essential to holding the child securely during a crash. Damage to the restraint structure itself indicates a restraint should not be used. The plastic used in child restraints can degrade over time, and after 10 years of age, its strength cannot be guaranteed but they are better than not using a restraint at all.*
48. Restraints that have been previously used should be inspected for missing components, wear and degradation before use. **Damaged restraints should not be used, and should be disposed of in a way that ensures they cannot be re-used.** (CBR2.16)	
49. Restraints that have been involved in a moderate to severe crash should not be re-used (even if damage to the restraint is not visible), and should be disposed of in a way that ensures they cannot be re-used. (CBR2.17)	*This includes any crash where the car had to be towed away, or any person was seriously injured. To ensure an old or damaged restraint is not re-used, they should be destroyed and not disposed of in a way that could allow the restraint to be re-used.*

Child safety harnesses (H-harnesses)

Recommendation	*Why this is important*
50. Child safety harnesses (H-harnesses) are not recommended. **They should only be considered when a child has no other option than to sit in a seating position with a lap-only belt, in conjunction with a suitable booster seat, or when required by law on an additional seat.** (R3.2) 	*Child safety harnesses allow the lap part of the belt to ride up into a child's abdomen and cause serious injury, and research shows they are not as safe as a lap-sash seatbelt. Furthermore they are often used incorrectly which further magnifies the risk of injury.* *They should only be considered as a last resort if the child cannot use a lap-sash seatbelt, and then only with specific booster seats that are designed to make sure the harness cannot slip up into the abdomen when the child moves forward in a crash.* *See above for considerations in additional seats (those installed in the cargo section of a vehicle).*

Additional considerations

Recommendation	*Why this is important*
51. Children with either a temporary or permanent disability (whether medical, cognitive, physical or behavioural) require specialist, multidisciplinary, case-by-case assessment. Restraint use for these children should follow guidelines in AS/NZS 4370 "Restraint of children with disabilities or medical conditions in motor vehicles". (PP4)	*Children with either a temporary or permanent disability, due to a medical condition or behaviours of concern, require specialist, multidisciplinary, case-by-case assessment, by qualified and experienced health professionals, therefore general guidelines on restraint practices may not always be sufficient for optimal safety during travel. Such children often require special consideration, for short or long term needs, when passengers in vehicles, and solutions need to be developed by these professionals in partnership with the child's carer(s).*
52. Parents or carers of small infants (<2.5kg) should use a rearward facing restraint designed to accommodate low birthweight infants (Type A1/0, Type A2/0, or Type A4/0) until their child is large enough for a good fit in a standard rearward facing child restraint. (PP6)	*Very small infants (<2.5kg) may be difficult to securely harness in standard RFCRs. These infants may achieve a more secure fit in a seat specifically designed for them. The Australian/New Zealand Standard 1754:2013 includes specifications for child restraints for small infants below 2.5kg. These are designated as Type A1/0, Type A2/0, Type A3/0 and Type A4/0.*
53. Parents or carers of premature infants should minimise the time babies are in a child restraint, and observe the child while in the seat when possible, to minimise the risk of apnoea (a stop in breathing). (PP7)	*There have been concerns about an increased risk of apnoea (a stop in breathing) for premature infants and other children at risk of breathing difficulties in child restraints, and while the research evidence is mixed, minimising time in the car seat and having an adult (who is not driving the vehicle) observe the child whilst the child restraint is in use is advised.*

Child restraint accessories

Recommendation	*Why this is important*
54. Child restraint accessories that are not supplied or recommended by the manufacturer, or are not certified for use with a specific restraint under AS 8005 are not recommended. (CBR3.1) **This includes:**	*If they move or are dislodged, accessories can introduce slack or looseness into the straps that secure the restraint to the vehicle or the child to the restraint. This increases the forces on the child's body in a crash and therefore increases the risk of injury.*
a. Seat belt positioners - a booster seat is safer. (CBR3.3)	*Poorly fitting or poorly positioned belts over the body can apply excessive force to vulnerable regions of the body, such as the soft abdominal organs and the neck, increasing the risk of serious injury. Belt positioners often pull the lap belt up into the abdomen, and increase rather than reduce the risk of injury. A booster seat is a much safer option.*
b. Buckle covers and other devices to stop a child from escaping from a restraint. Behavioural solutions are preferred. (CBR3.4)	*Buckle covers can prevent a child from being removed from a car in an emergency. Also, children very quickly learn how to get around most of these devices. It's better to teach your child not to do this, perhaps by rewarding them during trips when they do not unbuckle themselves.*
c. Add-on chest clips designed to prevent the child from removing their arms from the harness that are not supplied with the restraint or certified under AS 8005. (CBR3.9)	*Chest clips can make it more difficult to remove a child from a car in an emergency. Also, children very quickly learn how to get around these devices. It's better to teach your child not to take their arms out of the harness.*
d. Padding, pillows, cushions and blankets or wraps that surround the head or neck, are positioned behind the head, or within the harness of a restraint, not supplied by the manufacturer with the restraint. (CBR3.5)	*Objects such as blankets, wraps and padding inside the harness of the child restraint make the harness too loose and the child can come out of the restraint in a crash. Extra padding behind the head can push the head forward, and expose it to injury in a side impact. Anything that is near the neck can pose a strangulation risk or restrict breathing.*
e. Belt tensioners and other fitting accessories that actively tighten the seatbelt. (CBR3.6)	*Restraints are designed to work properly with the seatbelts that exist in your car, and devices that can over-tighten the seatbelt could damage the restraint. Locking clips and gated buckles, while not usually necessary, are OK to use, if needed for correct installation.*
f. Seat belt extenders which position the buckle over, rather than beside, the child or introduce slack into the belt. (CBR3.7)	*Seatbelt buckles should not be over the child's body where they can cause injury. Seatbelt extenders can also encourage the seat belt to be slack, and it can be difficult to see if the buckle is done up where the extender buckles into the car.*
g. Rigid toys or entertainment accessories which can be contacted by a child or can fly off and hit other car occupants. (CBR3.8)	*Anything that the child can hit during a crash, including rigid play toys mounted in front of the child, can cause injury in a crash. Any rigid object that can come loose in a crash can become a projectile which can cause serious injury to occupants of the car.*
h. Sun shades or insect nets which cover the child and restraint. (CBR3.10)	*Sunshades or insect nets over the top of a restraint could reduce airflow to a child, reduce visibility of the child, and make it more difficult to remove a child in an emergency. Window-mounted sun-shades are available as an alternative.*

For further information

Visit **www.kidsafe.com.au/crguidelines** for more information or contact the **Kidsafe** *(Child Accident Prevention Foundation of Australia)* office in your State or Territory:

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