



## Keeping children as safe as possible while travelling in motor vehicles:

A guide for parents, carers and road safety practitioners

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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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## Top 10 ways to keep children as safe as possible while travelling in motor vehicles

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, this page provides a summary of the 10 most important things that can help keep a child safe in the event of a crash.

- 1. The use of any restraint is preferable to not using a restraint.** It is the law that each person in a motor vehicle has their own restraint.
- 2. Infants are safest if they remain in their rear facing restraint as long as they still fit in their rear facing restraint.** While the law allows children over 6 months to use either a rear facing restraint or a forward facing restraint, the rear facing restraint offers better protection as long as the child fits in it.
- 3. Once a child is too tall for their rear facing child restraint, they should use a forward-facing child restraint (with built-in 6 point harness) until they are too tall for it.** While the law allows children 4 years and older to use either a forward-facing child restraint or a booster seat, the forward-facing child restraint offers better protection as long as the child fits in it.
- 4. 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.** While the law allows children 7 years and older to use either a booster seat or a seat belt by itself, a booster seat offers better protection as long as the child fits in it.
- 5. For a child in a booster seat or an adult seatbelt, use a seating position with a lap-sash (lap and shoulder) belt** in preference to one with a lap-only belt.
- 6. All child restraints and booster seats must be installed correctly and the child strapped in correctly,** according to the manufacturer's instructions:
  - Always use a top tether strap for all rearward facing child restraints, forward facing child restraints and booster seats that have them.
  - Always thread the seatbelt through the correct path (following the colour coding available for newer restraints).
  - Ensure there is no slack or looseness in any part of the system. Check the harness straps around the child, the top tether, the seatbelt anchoring the restraint to the vehicle, and the seatbelt used by a child in a booster seat.
  - Check that the seat belt is buckled before each trip.
- 7. Children 12 years of age and under are safest in the rear seat.**
- 8. Seat belts should never be used with the sash belt under the child's arm or behind the child's back,** whether they are being used alone or with a booster seat.
- 9. When planning any journey with children, use a motor vehicle which allows each child to be in the appropriate restraint for their size.**
- 10. Regularly check that child restraints are correctly installed and that the restraint is adjusted properly for the child's size** according to the restraint users' manual. Using a restraint fitting service will help ensure that everything is used correctly and that your child is as safe as possible.

An illustrated summary brochure is available from:

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



## About these Guidelines

### Background

These guidelines were developed under the auspices of Kidsafe Australia and Neuroscience Research Australia, by a panel of child road safety experts. They were approved by the National Health and Medical Council of Australia in July 2013. 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 minimize their risk of injury in the event of a crash.

The recent introduction of laws in all Australian states and territories introduced changes to the child restraint requirements for all children up to the age of 7 years. These laws have been based on a better understanding of how children can be protected in a motor vehicle crash. The available evidence shows that there is more that can be done above and beyond the new child restraint laws, 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](http://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 scarce or lacking, 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**

It is not within the scope of these guidelines to cover:

- Guidance for optimal restraint practices for children with additional needs, whether these are physical, medical, or behavioural. Case-by-case assessment of these children is recommended. The Australian Standard covering child restraint practices for children with additional medical, physical or behavioural needs, 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 motorized vehicles, including motorcycles (which is illegal for children under 8 years of age in most states), planes, quad bikes and other non-standard 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.



# What are the different types of child restraints?

These are the most common types of restraints that are available for children to use in cars.

## Rearward Facing Child Restraint<sup>1</sup>

A restraint for children from birth, 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.*



## Forward Facing Child Restraint<sup>2</sup>

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

Type B in the Australian Standard

Also known as: *Child safety seat, forward-facing restraint.*



## Booster Seat

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

Type E, F in the Australian Standard

Also known as: *Belt positioning booster, Booster cushion<sup>3</sup>*



## Convertible Restraint

A child restraint that combines 2 or more of the above categories.



Forward/Rearward Facing Combination



Forward facing/Booster Combination

## 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 belt

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

Also known as: *2 point seatbelt.*



### Notes:

1. Rear facing 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 a new category Type A4, for children up to approximately 2-3 years of age.
2. Type B forward facing restraints accommodate most children up to at least 4 years of age, but a newer type of forward-facing restraint, Type G, may soon become available which can be used up to approximately 8 years of age.
3. 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.

## 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.

### General points – for all ages

Recommendation	Why this is important
<b>1. The use of any restraint is preferable to not using a restraint.</b>	<i>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.</i>  <i>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.</i>
<b>2. Never restrain two or more people in a single restraint</b>	<i>When children (and/or adults) share restraints, neither is properly protected, and they can injure each other in a crash.</i>
<b>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 seatbelt fit.</b>	<i>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.</i>

**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
<b>4. Keep each child in the restraint designed for their size as long as they will still fit into it. Don't be in a hurry to move them into the next stage restraint.</b>	<i>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.</i>
<b>5. When using convertible restraints (which have two or more modes, e.g. rear facing and forward facing, or forward facing and booster seat) use the mode designed for younger children for as long as possible.</b>	<i>A child will get better protection in the 'younger' mode if they still fit in that mode.</i>
<b>6. Exhaust all options for restraints in the child's 'recommended' category before transitioning them to the next category of restraint.</b>	<i>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.</i>

## From birth

Recommendation	Why this is important
<p>7. From birth, children should use rear facing child restraints for as long as they fit in them.</p> <ul style="list-style-type: none"><li>- 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.</li><li>- 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.</li></ul>	<p>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.</p> <p>Rearward facing restraints support the child's head and neck in severe frontal crashes better than forward-facing restraints.</p>

**Other information:** Restraints designed for extended rear facing use, up to approximately 2-3 years of age, are included in the new Australian Standard (AS/NZS 1754 - 2013 edition), and are called 'Type A4 restraints'. While there is no experience with them yet, these are likely to be an acceptable alternative to a forward-facing child restraint for children who fit within them.

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

## When they outgrow their rear facing child restraint

Recommendation	Why this is important
<p>8. Children, from birth, should use rearward facing child restraints (RFCR) for as long as they fit within them.</p> <ul style="list-style-type: none"><li>- 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 above the top shoulder harness strap slot for rearward facing use.</li><li>- 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 rearward facing restraint use.</li></ul>	<p>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).</p> <p>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.</p>

**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 rear-facing child restraint or properly fastened and adjusted approved forward facing child restraint with a built-in harness.

## Children aged 4 years and older

Recommendation	Why this is important
<p>9. Once a child has outgrown their forward facing child restraint, they should use a booster seat until they are too tall for the booster or can achieve good seatbelt fit as assessed by the '5 step test' (approximately 145-150cm or up to approximately 12 years of age).</p>	<p><i>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.</i></p>
<p>10. High back booster seats are preferable to low back booster cushions.</p>	<p><i>Booster seats with high backs and side wings offer greater protection for the child's head in a side impact crash, and keep the seat belt in the correct position, even if a child falls asleep.</i></p>
<p>11. Booster seats should be used with lap-sash seat belts, and the belt must not be worn under the arm or behind the back.</p>	<p><i>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.</i></p>
<p>12. 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.</p>	<p><i>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.</i></p>
<p>13. Children should continue to use a booster seat as long as possible, until they can fit properly into an adult seat belt. A good adult seat belt fit is generally not achieved before children are approximately 145-150cm tall, or 11-12 years of age.</p>	<p><i>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 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.</i></p>

*A child gets good seat belt fit if the answer to **all** the questions in the box below (the "5 step test") is **yes**.*

*Different models of booster seat accommodate children up to different sizes, and some can fit children up until they can get good seat belt fit. Parents and carers should look for booster seats that will fit their child for as long as possible, especially if their child is tall for their age.*

**Assessing whether a child is ready to use an adult seat belt:** The "5-step test" can be used to determine whether a child is big enough to obtain optimal protection from adult seat belt (see the box below).

The "5-step test" to assess if a child is ready to move from a booster to an adult seat belt		
(1) Can the child sit all the way back against the vehicle seat back?	✓	or ×
(2) Do the child's knees bend comfortably in front of the front edge of the vehicle seat?	✓	or ×
(3) Does the sash (shoulder) belt sit across the middle of the shoulder, not on the neck or out near the arm?	✓	or ×
(4) Is the lap belt sitting low across the hip bones touching the thighs?	✓	or ×
(5) Can the child stay seated like this for the whole trip?	✓	or ×
5 ✓ = yes		
Less than 5 ✓ = no		

## The 5 Step Test



Can the child sit with their back against the vehicle seat back?

Do the child's knees bend in front of the edge of the seat?



Does the sash belt sit across the middle of the shoulder?

Is the lap belt sitting low across the hips touching the thighs?



Can the child stay seated like this for the whole trip?

**Other information:** Restraints designed for extended forward facing use with a built-in 6 point harness for use up to approximately 8 years of age are included in the new Australian Standard AS/NZS 1754 (2013). While there is no experience with these restraints yet, they are likely to be an acceptable alternative to the use of a booster seat for children who fit within them.

Booster seats that are integrated into the vehicle (typically these fold down from the rear seat) are a legally acceptable alternative to an add-on booster seat, but little is known about their safety compared to an add-on booster seat.

**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

Recommendation	Why this is important
<b>14. Children in seatbelts should use lap-sash seatbelts rather than lap-only seatbelts whenever possible.</b>	<i>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.</i>
<b>15. 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.</b>	<i>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.</i>

**Minimum legal requirement:** Children aged 7 years and older must be restrained in a properly worn seat belt, or booster seat that is properly fitted to the vehicle and adjusted to fit the child's body correctly.

## Choosing the safest seating position

Recommendation	Why this is important
<b>16. Children 12 years and under should sit in the rear seat (if there is one).</b>	<i>Injury risk to children aged 12 and under is nearly double in the front seat compared to the back seat, irrespective of restraint type.</i>
<b>17. 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:</b>	<i>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.</i>
<b>a. The anchorage points needed for the child restraint (top tether and lower ISOFIX anchorage points if relevant) are available.</b>	<i>Rearward facing 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 the seat position for these restraints.</i>  <i>The location of lower ISOFIX anchorages in the car needs to be considered when installing a restraint by attaching to them.</i>
<b>b. The top tether strap (if required) cannot fall into a gap between seat back sections such as if there is a split-folding seat, or off the side of a single seat.</b>	<i>The top tether strap needs to be 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.</i>
<b>c. For children in seatbelts or booster seats, the seatbelt buckle is readily accessible.</b>	<i>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.</i>
<b>d. If lap-sash belts are not available in all seating positions, lap-sash belts should be prioritised for the children in booster seats or seat belts alone</b>	<i>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.</i>
<b>e. There are no potential interactions with other child restraints installed, such as a top tether strap from a child seated in front, or space required for other restraints.</b>	<i>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, do not seat a child underneath an overhead tether strap from a restraint in the seat in front, and avoid large side wings overlapping a seat belted</i>

Recommendation	Why this is important
<p>f. Children should preferably be seated in positions that allow entry and exit from the vehicle from the kerb side.</p> <p>g. If a booster cushion is used, the centre seat is preferred if a lap-sash seatbelt is available in that position.</p> <p>h. The child can be seen by the parent in the front seat.</p>	<p><i>child's space.</i></p> <p><i>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.</i></p> <p><i>Booster cushions have no side impact protection, and the centre seat is further away from where the car might be hit in the side.</i></p> <p><i>While not always possible, particularly for rearward facing restraints, if the driver does not have to turn around to see the child then his or her eyes are not diverted from the road, reducing the chance of a crash.</i></p>
<p>18. When choosing the seat position of a child using an adult seat belt in the rear seat, as many of the following points as possible should be followed:</p> <p>a. Use a lap-sash seat belt in preference to a lap-only belt</p> <p>b. Access to the seat buckle should be easy, if other children using child restraints are in the rear seat</p> <p>c. The child should achieve a good seat belt fit (see "5 step test") in their chosen seat position.</p>	<p><i>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.</i></p> <p><i>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.</i></p> <p><i>Seat belt fit may vary in different seating positions due to the seat shape and seat belt anchorage locations for middle and outboard seats.</i></p>

### ***When an airbag is present***

Recommendation	Why this is important
<p>19. Rearward facing child restraints should not be used in the front seat when a front passenger seat airbag is present.</p>	<p><i>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.</i></p>
<p>20. Forward facing child restraints and booster seats are not recommended in the front seat – especially where an active front passenger airbag is installed.</p>	<p><i>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.</i></p>
<p>21. It is not recommended that children 12 years of age and under sit in the front seat of vehicles - especially where there is a front passenger airbag.</p>	<p><i>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.</i></p>
<p>22. 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.</p>	<p><i>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.</i></p>

**23. 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. For curtain airbags that come out of the roof rail above the side window of a vehicle, children should not rest any part of their body (particularly the head) on the window or sill.**
- c. For torso airbags that deploy from the side of the seat or the door panel in side crashes, children should not rest any part of their body (particularly the head) on the door.**

*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.*

### **Safe installation and safe use of child restraints**

<b>Recommendation</b>	<b>Why this is important</b>
<p><b>24. All child restraints and booster seats must be installed and the child strapped in correctly, according to the manufacturer's instructions. Specifically:</b></p> <ul style="list-style-type: none"><li><b>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.</b></li><li><b>b. Always use the correct belt path for the restraint (following the colour coding available for newer restraints)</b></li><li><b>c. Be sure there is no slack or looseness in any of the belts anchoring the restraint to the car and avoid twists when possible.</b></li><li><b>d. Check the seat belt buckle hasn't been unbuckled accidentally before every trip.</b></li><li><b>e. 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. Avoid twists if possible.</b></li></ul>	<p><i>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.</i></p> <p><i>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.</i></p> <p><i>This means that they are much more likely to strike something rigid and be seriously injured.</i></p>

- f. 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.
- g. In boosters, always use and supplied seatbelt guides or clips, including any designed to position the sash belt and/or the lap belt.

- 25. 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 slot used needs to be adjusted as the child grows.**
- 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.*
- 26. 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.**
- Placing the sash belt under the arm provides no restraint for the upper body, similar to a lap-only belt, and this can cause head, abdominal and spinal injuries.*
- 27. Carers transporting children should regularly check the restraint installation and fit of the child in the restraint themselves. Regular use of restraint fitting services to correctly install and demonstrate correct use is recommended.**
- The use of an accredited restraint fitting station has been shown to halve incorrect use of restraints. If formally accredited services 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.*
- 28. When buying a restraint, carers should test the fit of the restraint in their vehicle before purchase.**
- 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 a tight installation, first try the restraint in your car.*
- 29. Unoccupied child restraints should be secured to the vehicle.**
- 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.*

**Other information:** When restraints that can be installed with dedicated child restraint lower anchorages (ISOFIX anchorages) become available, they should be used as instructed by the restraint manufacturer in seating positions recommended by the vehicle manufacturer. These restraints can also be installed with a seat belt and top tether if the car does not have ISOFIX lower anchorages.

## Safe restraint use in less typical situations

### Rental cars and taxis

Recommendation	Why this is important
<p><b>30. For optimal safety, children should use the recommended restraint for their size when travelling in taxis and rental cars.</b></p>	<p><i>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, even if the laws may not require it.</i></p> <p><i>While the normal laws apply in rental cars, in taxis, the taxi driver may not be required to check that your child is safely restrained.</i></p>

**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. The table below provides a summary of the minimal legal requirements in each state and territory.

<b>The taxi driver must ensure that:</b>	NSW	Vic	QLD	SA	Tas	WA	ACT	NT
Children under 12 months must use a child restraint	✓							
Age of children who are not allowed to sit in the front seat	Under 4 years	Under 1 year	Under 7 years	1-7 years		under 7 years	under 7 years	
Children 4 years or older but under 7 years may only sit in the front row if all of the other seats in the row(s) behind the front row are occupied by passengers who are also under 7 years of age	✓					✓	✓	
All child passengers must be in their own properly adjusted and fastened seatbelt if no appropriate child restraint is available, if they are aged:	1-16 years	1-16 years	7-16 years	1-7 years	1-16 years	7-16 years	7-16 years	7-16 years
Suitable child restraint tether anchorage must be available	✓	✓	✓					
If an appropriate child restraint is available it must be used	✓	✓	✓		✓	✓	✓	

### Public Transport

Recommendation	Why this is important
<p><b>31. On urban public buses, children should be seated in their own seating position when possible.</b></p>	<p><i>The seat in front of where one sits can provide some restraint, and can reduce the risk of being sandwiched between a seat and another occupant.</i></p>
<p><b>32. 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.</b></p>	<p><i>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.</i></p>

- 33. Children using community transport buses should use an age-appropriate child restraint, where possible.** *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
<b>34. Child restraints are not recommended to be used in side-facing seats in “troop carriers” and similar vehicles unless no forward-facing seating positions are available.</b>	<i>While little research has been done in this area, restraint instruction manuals 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 design 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.</i>
<b>35. Children should not travel in vehicles that do not have appropriate forward facing vehicle seats upon which the appropriate child restraint can be properly installed.</b>	
<b>36. Children should never travel unrestrained in vans, non-passenger parts of utility vehicles or trucks or similar.</b>	<i>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.</i>

### 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
<b>37. Additional seats should only be used when a second row (or manufacturer installed) seat is not available.</b>	<i>Seats designed as part the vehicle and their performance verified in crash tests are likely to offer the best protection.</i>
<b>38. Follow the additional seat manufacturer’s recommendations on the suitability of the seat for use of child restraints.</b>	<i>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.</i>
<b>39. The ‘5 step test’ to determine whether a child is tall enough to sit in an additional seat without a booster seat.</b>	<i>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.</i>

**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.

## Older restraints

Recommendation	Why this is important
40. Restraints older than 10 years should not be used.	<i>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.</i>
41. Restraints that have been previously used should be inspected for 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.	<i>The plastic used in child restraints can degrade over time, and after 10 years of age, its strength cannot be guaranteed.</i>
42. Restraints that have been involved in a moderate to severe crash should not be re-used, and should be disposed of in a way that ensures they cannot be re-used.	<i>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.</i>

## Child safety harnesses (H- harnesses)

Recommendation	Why this is important
43. 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, and should only be used in conjunction with a booster seat that is specifically designed to make sure the harness cannot be pulled up when the child moves forward in a crash.	<i>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.</i>  <i>See above for considerations in additional seats (those installed in the cargo section of a vehicle).</i>

## Child restraint accessories

Recommendation	Why this is important
44. Child restraint accessories that are not either supplied with a restraint, recommended by the manufacturer, or certified for use with a specific restraint under AS/NZS 8005 are not recommended. This includes: a. Seatbelt positioners - a booster seat is safer	<i>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.</i>  <i>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.</i>
b. Buckle covers and other devices to stop a child from escaping from a restraint.	<i>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.</i>

**Recommendation****Why this is important**

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| <b>c. Add-on chest clips designed to prevent the child from removing his/her arms from the harness that are not supplied with the restraint or certified under AS/NZ 8005.</b> | <i>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.</i>  |
| <b>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.</b>               | <i>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.</i> |
| <b>e. Belt tensioners and other fitting accessories that actively tighten the seatbelt.</b>  | <i>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 firm installation.</i>  |
| <b>f. Seat belt extenders which position the buckle over, rather than beside, the child or introduce slack into the belt</b>   | <i>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.</i>   |
| <b>g. Rigid toys or entertainment accessories which can be contacted by a child or can fly off and hit other car occupants</b>   | <i>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.</i>   |
| <b>h. Sun shades or insect nets which cover the child and restraint.</b>   | <i>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.</i>  |

## For further information

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

### Kidsafe ACT

Building 2, Pearce Centre  
Collett Place  
Pearce ACT 2607  
Telephone: (02) 6290 2244, Fax: (02) 6290 2241  
Email: [info@kidsafeact.com.au](mailto:info@kidsafeact.com.au)  
[www.kidsafeact.com.au](http://www.kidsafeact.com.au)

### Kidsafe QLD

Kidsafe House  
50 Bramston Terrace  
Herston Q 4029  
Tel: (07) 3854 1829, Fax: (07) 3252 7900  
Email: [qld@kidsafeqld.com.au](mailto:qld@kidsafeqld.com.au)  
[www.kidsafeqld.com.au](http://www.kidsafeqld.com.au)

### Kidsafe TAS

c/o Lenah Valley Primary School  
11 Creek Road  
Lenah Valley TAS 7018  
Tel: 0448 881 425  
Email: [tas@kidsafe.com.au](mailto:tas@kidsafe.com.au)  
[www.kidsafetas.com.au](http://www.kidsafetas.com.au)

### Kidsafe WA

Godfrey House  
c/- Princess Margaret Hospital  
Thomas Street  
Subiaco WA 6008  
Tel: (08) 9340 8509, Fax: (08) 9340 8041  
Email: [kidsafe@kidsafewa.com.au](mailto:kidsafe@kidsafewa.com.au)  
[www.kidsafewa.com.au](http://www.kidsafewa.com.au)

### Kidsafe NSW

Kidsafe Centre  
C/- The Children's Hospital at Westmead  
Locked Bag 4001,  
Westmead NSW 2145  
Telephone: (02) 9845 0890, Fax: (02) 9845 0895  
Email: [kidsafe@chw.edu.au](mailto:kidsafe@chw.edu.au)  
[www.kidsafensw.org](http://www.kidsafensw.org)

### Kidsafe NT

1/9 Woolner Court  
Woolner NT 0820  
Tel: (08) 8941 8234, Fax: (08) 8985 1025  
Email: [nt@kidsafe.org.au](mailto:nt@kidsafe.org.au)  
[www.kidsafent.com.au](http://www.kidsafent.com.au)

### Kidsafe SA

Level 1, Gilbert Building (opposite the Playdeck)  
Women's & Children's Hospital,  
72 King William Rd,  
North Adelaide SA 5006  
Tel: (08) 8161 6318, Fax: (08) 8161 6162  
Email: [sa@kidsafe.com.au](mailto:sa@kidsafe.com.au)  
[www.kidsafesa.com.au](http://www.kidsafesa.com.au)

### Kidsafe VIC

PO Box 1005  
  
Collingwood Victoria 3066  
Tel: (03) 9251 7725, Fax: (03) 9244 6858  
Email: [info@kidsafevic.com.au](mailto:info@kidsafevic.com.au)  
[www.kidsafevic.com.au](http://www.kidsafevic.com.au)

This Guide is based on the *Best Practice Guidelines for the Safe Restraint of Children Travelling in Motor Vehicles*. Neuroscience Research Australia and Kidsafe Australia, Sydney: 2013  
[www.neura.edu.au/crs-guidelines](http://www.neura.edu.au/crs-guidelines)



