

Child Car Safety Seats 1.01 (Let's make this easier)

Foreword: In this overview ACRI has highlighted some of the main points that our members have found the most helpful to parents and other Child Car Safety Seat users.

This information is to some degree unique, in that it's borne from extensive community feedback and experience and ultimately aims at empowering parents, especially expectant parents. It will diffuse much of the confusion parents are exposed to. Some readers may find information that appears at odds with that promoted by various stakeholders. If any clarity is required on any point, please contact the ACRI office on 03 9467 9496



The Learning curve:

Generally, becoming a parent is a steep learning curve and when it comes to deciding on equipment and goods, the retail environment can leave many eyes glazed over. The range of choice is enormous and much of the information is contradictory. So, let's start at the core of the passenger safety issue.

Passenger safety - It all starts here:

Regardless of the many improvements made with passenger safety, hospital injury and fatality statistics have not eased for over 30 years. Families suffer the pain from road collisions every day.

Complacency of car travel risks have increased, partly through the desensitised environment that the modern motor car provides. Driver distraction factors have also increased many times over. Many Child Car Safety Seats – Child Restraints - are multiple use products (i.e. they will expand / reconfigure through different growth stages of the child). Such products have additional complications that can further contribute to misuse.

Misuse of equipment is the major contributor to injury and death statistics.

Overview of Where to Focus:

It's important to reiterate the fact that these are Safety products, first and foremost. Despite the added cushions, cup-holders, speaker systems etc; they were not made for any other purpose than facilitating a safe travel environment. Inducements to buy these products are often comfort driven and not safety driven, these being completely different aims.

How they function as safety devices and how easily that can be accomplished is where all focus should be aimed.

It's also important to recognise early on that these safety products need to integrate into family and vehicle environments and each situation can bring unique challenges.

The Basics of a Safe travel environment:

For a safe environment, all newborns and small children must travel in motor vehicles facing the rear of the vehicle. There are many reasons why this is a healthier method, but the easiest to relate to is what we're taught when we're first taught how to hold a baby. We are shown to support their head as their head is very heavy and their neck (a vulnerable spinal area) is unable to support its weight safely.

Collision forces multiply weight factors many times. Since most 'high impact' collisions are frontal orientated, rear facing protects passengers much more successfully. Yes, all passengers would be safer rear facing, but with children being extra vulnerable and smaller of course, we can easily do more for their safe travel environment.

There are two common types of safety products designed for this purpose, one generically called a capsule; a unit that can be lifted out with the baby still in place, which facilitates transitions to and from the vehicle - (These are often pram compatible). The other type, often called a rear facing convertible, remains in the vehicle, but can be reconfigured for forward facing applications in the future when the child is larger. NB: This type does not facilitate baby management transitions to and from the vehicle.

Other than the above points, there are only four (4) other basic safety factors to address. These apply equally to adults as well as children.

- ✓ We need 'Lower body' restraint, (ie: via straps, harness, belt) ie: Low as possible to the pelvis area.
- ✓ We need correctly positioned 'Upper body' restraint (again via straps, harness, belt) ie: Across the shoulder and away from the face or neck.
- ✓ All looseness should be removed from these straps or belts, Adjustments are provided for this purpose.
- ✓ Head protection devices must be correctly positioned. Adjustable Side impact devices are built into many Safety Seats. Likewise, Head Restraints (Commonly and inappropriately called 'Head rests') are built into most vehicles for the reduction of 'whiplash' injury.

What you will find:

It's usual when researching these products that parents are exposed to marketing statements promoting **age** as a range choosing criteria which often becomes the focus for any future safe travel reference.

Examples:

- Marketing the product categories / types: Egs: Birth to 12mths - Birth to 4 years etc:
- Promotion of the Road rules: Eg: "Must be rear facing up until 6 months of age."

However, using age as a selection criterion is completely misleading. All personal safety products relate to the users size and this includes child car safety seats. If you read the road rules in full, the suitability of the safety product to the child is mentioned and of course may override age if the

instructions of the safety product are to be adhered to. References to age can be misleading and confusing.

All Australian safety seat products have 'use limits' related to the child's size. All new products have shoulder markers that provide easy to identify safe use guidelines.

Safety seat products for this level and possibly for most of the first eight years of a child's life provide built in, integral harnessing. I.e: 5 or 6 point harnesses. (These are the safest, most secure and reliable restraint system).

The process of deciding on a purchase choice usually starts at viewing a range of products and making basic comparisons and preferences.



1st Stage: Initial choosing criteria include:

1. Budget range:
 - Consider the cost - What can this device ultimately provide and how many years will you use it?
2. Use range* 0-6mths/12mths 0-4years. 0-8years. Etc:
 - Consider the time you'll be using it over – the work it will be exposed to - technology improvements that may occur, and of course any change to the vehicle that you'll be using.
3. Comfort level
 - Consider that comfort cushions are not generally related to safety factors, so don't be overly concerned with trim for safety purposes. (Always read cushion the labelling)
4. Safety factors
 - Side impact protection devices. Energy absorption initiatives. Which product innovation do you like best - Which one are you most confident about? (See FAQ's)
5. Colour and general aesthetics.
 - What you like, what pleases you?
6. Ancillary features. Cup holders - messy mats - connectivity - ISOFIX (See #E below)
 - Nice to have if they help you, but not essential.

**NB: Consider that #2 of the above relates to the longevity of use. I.e; It is only useful as a guide as to how wide a usability range that product may cover. Age is not applicable to true passenger protection.*

Value - Add your purchase:

It's at this point where the majority of product purchase decisions are made, in the store at the shelf or counter. However, we suggest that further comparisons should be made before deciding. Not all safety seat products are as easy to use as each other, many can be difficult to configure, operate and even in allowing passenger access.



2nd Stage: Functionality comparison:

The product you buy may be used every day and in some cases several times a day and over many years, therefore ease of use must be considered if safe use practices are to be maintained.

Since these products may look so similar, especially in having an inbuilt harness, it is easy to assume that they all function the same. They do not, so scrutiny of the functionality factors before you buy will serve you well. One example is the harness adjustment; it should be adjusted for every trip; that is a lot of uses. Also, the product you buy will be used for many years, so the easier it is to use the better.

Some functions to test and compare are: (NB: Different safety seats will have varying operational functions)

- A. Operating the 'harness release' to extend the length of the harness straps.
- B. Shortening to adjust the tension of the harness.
- C. Harness 'shoulder height' (as junior grows taller) adjustment.
- D. Upper tether strap adjustment or interface. (Especially important for removable rear facing capsule applications)
- E. If you are going to remove and replace the unit regularly how easy is the seat belt pathway accessed? Would using ISOFIX help with that? Is your car suitable for that option? What is ISOFIX? See <https://acri.com.au/faqs/faqs-my-child/#vehiclerelated>



3rd Stage: Vehicle relationship comparison:

As these safety products have to relate to a motor vehicle the integration variations and challenges are infinite. Understanding what benefits or challenges the vehicle / equipment can bring before purchasing is to most parent's advantage.

There are a number of vehicle relationship aspects that may impact on your child car safety seat choice, they are:

1. How much space will the installed equipment leave for other passengers?
2. How much space will the installed equipment leave for the front seat occupants? (Reminder: A comfortable driving position is a safer position for all occupants.)
3. In relation to the vehicle seat (product footprint), does it leave room for other seat belt connections or seat folding operations?
4. Vehicle door opening / access. (Does it leave room for getting the child in and out?)
5. Does the upper tether anchorage location present any luggage, operation or access issues? (This is not usually something that a different safety seat choice will assist with, but it's worth knowing in advance what you may need to deal with on a daily basis. Family vehicles have been replaced over such reasons)

Of course these additional comparisons require access to the physical product, so online purchases are disadvantaged in this respect.

All good retail stores know that such comparisons are a valuable consideration; it's often part of their service and obviously adds a cost to their business.

Please do not expect any retail store to offer you such service toward this aim without an intention to buy from them. It is worth any extra cent of investment to have such confirmations, the value showing itself repeatedly every day and over many years.

Some retailers have a relationship with an 'installation'* service provider. Such arrangements can provide benefits to consumers on many levels. However, it's a common offer that the store will 'hold' the item in store in preparation for the day that the service will be performed. ACRI suggests that your purchase should always go home with you. This is so that you can get familiar with its features and functions in the comfort of your living room space, well before it goes anywhere near your vehicle.

Even going through the installation to the vehicle instructions will empower parents.



FAQ's - Child Passenger Safety Technicians receive these questions regularly.

Here are a few general conversational responses.

1. Which product would you recommend?
 - The one that solves usage problems and doesn't bring you unnecessary difficulties.
 - The one with the most comprehensive safety features that you can afford.
 - The one that YOU can use easily every day.
 - One with positive side head protection factors

- If it was known what type of collision was going to occur, the answer could probably change. Collisions have infinite outcomes, therefore of course no one can ever be 100% fully protected.
- 2. Will an ISOFIX compatible product make my child safer?
 - Properly used either system is very safe. Some prefer seat belt attachment as the overall strength is higher and stretch, or the 'give' is better. It's a personal choice. (See other points below)
 - If you expect to remove and replace it regularly then an ISOFIX compatible product may make the transitions easier. (As this always relates to the compatibility of the child car safety seat and the vehicle, ISOFIX is not always easier) Easier in it being attached correctly is safer of course.
 - The lower attachment to the vehicle aspect is all that the ISOFIX feature may assist with; there may be as many as seven (7) other factors to consider for correct safe child safety seat use.
- 3. Is the side impact safety feature on product 'X' better than on product 'Y'?
 - It is impossible to be sure which provides the better protection, based on a collision circumstance that you may be exposed to.
 - Protection level cannot be determined by feeling the product. We're **not** looking for softness, (consider a motorcycle helmet). Also, some that feel very soft may actually offer more protection than others when put to the test under dynamic conditions and not 'finger pressure' conditions.
 - If it has additional external devices (often increasing the overall width of the product) then we would always say that anything placed between a side impact and the passenger is a bonus.
 - There have been comparative tests and reports that you may like to research, but your own scrutiny of daily ease of use factors should not be over looked in preference.
- 4. Why would I buy a capsule, they're only usable for such a short period of time?
 - 'Lift out' systems, often called transit systems or - capsules, offer much better baby / logistical management that permanently installed systems (Convertible types)
 - Getting used to having a baby in the family is a steep learning curve and having logistical assistance at this stage can be well worth it. Hiring such a unit is an option in most localities.
 - Yes, you don't have to buy one, you could hire one.
 - Using a hire unit, even for only a few weeks is a great way to gain 'travel with a baby in the car' experience that will facilitate any child car safety seat purchase decision.
- 5. Is Rear Facing for longer (Often called 'Extended Rear Facing') really worth it?
 - Since most high impact collisions are frontal, rear facing the passenger will provide higher spinal / neck protection. The longer we can travel in that format the better that particular risk is managed.
 - However, Extended Rear Facing also brings other safety challenges, so these need to be considered as well to enjoy the full benefit.

- Children who fidget out of their harnesses cannot be monitored as easily from the front seat / driver positions.
- Children that have health issues (Eg: Reflux) need to be monitored more closely.
- Children who are unsettled rear facing and may cry, scream or otherwise pose a distraction for the driver. Driver distraction poses a risk to everyone, those in the car and other road users as well.
- If your vehicle shares passenger space with a cargo space then any item in the rear must be secured as rear facing children are at higher risk from flying objects that missile around the car during a collision.

***Installation / fitting service notes:**

A good 'installation' service is 60% consultancy, 15% 'doing for' and 25% educational. If at any stage of the product use there is any doubt that you are not using or understanding it correctly, then that's a good time to engage a Child Passenger Safety Technician (CPST).

NB: ACRI does not train our service providers to only be a 'Fitter', such a service delivery paradigm empowers the fitter and not the parent.