

# KEEPING CHILDREN SAFE IN CARS

## AN INTERVIEW WITH DR JULIE BROWN



*Dr Julie Brown is one of Australia's top experts on reducing injury among child occupants in motor vehicles. She leads a research team at Neuroscience Research Australia, and is a founding member of the Child Restraint Evaluation Program which provides expert, independent information for consumers on the purchase and correct use of child restraints.*

### **1. Could you please tell us about the research that you lead at Neuroscience Research Australia?**

My research focuses on reducing unintentional injury, particularly among children, that result from road traffic trauma. Injury is the number one cause of death and disability among children and traffic related injury accounts for a substantial proportion of this problem. The type of research we undertake includes trying to understand the nature of specific injuries, the reasons why these injuries happen and developing ways to prevent or to reduce the likelihood of injury. We do this by analysing data collected by government departments, conducting field studies to understand the mechanisms of injury and the prevalence of risk factors in the community. We also do laboratory studies to develop countermeasures to these risk factors. At Neuroscience Research Australia we do very practical applied research because

our main objective is to develop solutions that can be used easily in the real world.

### **2. How does/can this research inform policy makers and influence change in the use of child restraints and in keeping children safe as occupants of motor vehicles?**

Our research in the area of child occupant safety is a good example of how we use a wide variety of methods to understand a problem and then develop ways to address these problems. Policy makers need evidence to develop strategies to address injury and we provide policy makers with evidence.

Australia has a long history of good child occupant protection. When we started the research in 2003, we found that 98% of children were using some form of restraint whenever they travel in a car. This is a very high rate of restraint use compared to many other countries around the world. However, we were still seeing significant numbers of children injured in car crashes. At that time about 70 children were dying each year across Australia in car accidents, and in NSW alone, another 1300 were being hospitalised every year after being in a crash.

To try and understand how these restrained children were being seriously injured, we started conducting in-depth crash investigations by talking to the families of children who had been injured. We looked at their cars, their child restraints and the types of injuries they received.

We found that all of the seriously injured children in our sample were either using restraints that were designed for older children or adults, or they were using the restraints incorrectly. We did some laboratory crash testing and demonstrated how these suboptimal forms of restraint increased the risk of injury. We then looked at how children across the population of NSW were using restraints and we found that less than 20% of children were using the right sort of restraint and using it correctly.

Our research told us that there was a lot of confusion amongst parents when it came to child restraints. Many parents didn't have the information necessary to make an informed decision on the right sort of child restraint and how to use it.

This research work has helped policy makers draft changes to legislation to clarify the types of restraints that children of different ages should use. It also helped identify the types of educational messages that parents and carers needed to help them make the best decisions for keeping their children safe in cars.

### **3. What is the CREP program and why was it introduced?**

CREP stands for the Child Restraint Evaluation Program. It is a consumer information program, like NCAP used for new cars, that gives star ratings to child restraints based on their dynamic performance and their ease of use.

All restraints sold on the Australian market must pass the Australian Standard, which is one of the toughest in the world. However, the Standard only sets *minimum* design and performance requirements. Back in the late 80's those undertaking testing of child restraints noticed that some restraints were just passing the Standard requirements while others were performing at a much higher level.

CREP assess the dynamic performance of the restraint *above and beyond* the requirements of the standard and then communicates these results to the general public.

The purpose is twofold. Firstly this allows consumers to use this information in making their purchasing decisions. Secondly this puts market pressure on manufacturers to supply restraints with the best possible performance.

Similarly the "ease of use" rating encourages manufacturers to develop restraints that are easy to use. Our field studies have shown us that errors in restraint use are very common. CREP tries to drive improvement of restraint design

"Australia has a long history of good child occupant protection. When we started the research in 2003, we found that 98% of children were using some form of restraint whenever they travel in a car. This is a very high rate of restraint use compared to many other countries around the world", Dr Julie Brown.

and as well as the quality of instructional information accompanying restraints to decrease these errors.

#### **4. Many parents are confused about when to move their children from one type of restraint to another. What are the issues around children staying in booster seats and the issue of age verses height?**

The vehicle environment, i.e. the seats and seat belt systems, are designed for adult occupants. Booster seats are designed to increase the seated height of children to help them achieve a better seat belt fit.

Booster seats can also help seat belt fit by assisting children to maintain an upright posture – if a small child sits on a vehicle seat they will tend to slouch so that they can bend their knees over the front edge of the vehicle seat. Sleeping children will also tend to slump sideways. Slouching

and slumping affects seat belt fit because the belt no longer sits across the strong bony parts of the chest and pelvis.

Children need to continue to use booster seats until they can adequately achieve good seated posture and seat belt fit on the vehicle seat.

The five step test can help parents in making this decision. Assess if your child can;

1. Sit with their back against the seat back
2. Sit with their knees bent comfortably over the front edge of the seat cushion
3. Sit with the shoulder belt across the mid-shoulder
4. Sit the lap belt low across the top of the thighs
5. Stay in this position for the duration of a trip

Australian law says that all children up to age 7 must use a booster seat. This means that parents have to make the decision about whether or not to move their child out of a booster seat after their child turns seven years.

All new booster seats coming onto the market will have shoulder labels to help guide parents in making this decision. Children should stay in their booster until their shoulders are above the upper shoulder height marker. Once this happens the parent can use the five step test to decide whether or not the child needs a larger booster or if they are ready to travel in the car without a booster.

Decisions around booster seat transitions should therefore be based on age and stature – weight is not important.

#### **5. What can early childhood educators/ services do to educate families on child restraints or influence the habits of parents/carers?**

Research shows that many families go to early childhood educators for information on children's health and well-being; keeping children safe in cars is an important area of child health.

We have demonstrated through a randomised controlled trial that multifaceted interventions and working collaboratively with educators, families and communities is the best approach to positively influence how children at these services travel in their family car.

This approach includes educating the educators, providing information and workshops for parents and integrating road safety education into early childhood service's curriculum and policies. It is important that early childhood educators and services ensure they are up to date on best practice in safe transportation of children and have the latest materials on hand to support their families.



#### **CREP website**

The CREP website is a great resource for parents and carers that can inform purchasing decisions. It provides objective comparisons on the performance of restraints. As well it provides information on ratings and correct use of child restraints. [www.crep.com.au](http://www.crep.com.au)