



Child safety equipment

A child's body is not a small-scale version of an adult's body. Moreover, it is very different in terms of flexibility. Until 10 years old, a child must be seated in a **specific safety device** adapted to his anatomy. The safety of children is therefore a specific safety topic. It is the subject of very advanced research at Renault.



RENAULT COMMUNICATION

> BASIC FACTS

The fundamental rule is that all the children must be systematically attached with safety devices adapted to their age. Statistics show that 30% of rear passengers involved in an accident are children younger than 10. In 22% of cases, serious injury could have been avoided by an adapted protection system. To meet this need, since 1998 Renault has fitted its cars with Isofix anchoring systems that are specifically adapted to the fixing of child seats. So that its protection is effective, a child seat or booster must be completely anchored to the vehicle seat. The ISO (International Standards Organisation) worked on this problem and produced the Isofix fixing system standard.

IN SHORT >>>

Isofix is a standard child safety seat fixing system that ensures they remain effective in an impact.



HOW DOES IT WORK?

1 STANDARDS

The Isofix standard seeks to prevent incorrect fitting of universal child seats in cars, and thereby minimise the risk of injury under collision conditions. Isofix introduces a standardised interface between the child seat and the vehicle, with two anchor rings at the junction between the seat back and bottom, and a third "tip-proof" anchor point for forward-facing seats. In addition to these fastenings, Renault includes an extra anchor point to provide better stability for backward-facing seats. Because a child's morphology changes very fast, Isofix specifies three age-ranges, each calling for a specific protection system:

Up to 2 years. Very young children need special neck protection. Because the head accounts for half of a baby's total weight, the neck is very vulnerable. To minimise the risk of neck injury and improve thorax and stomach protection, the child should be seated facing backwards, in a special baby car seat.

This can be fitted on the front passenger seat provided the passenger-seat airbag is disabled.

2 to 4 years. At this age, the priority is head protection. To prevent the head from impacting against the back of the front seat in the event of frontal collision, the child should be strapped into a suitable forward-facing seat properly attached to the car seat.

4 to 10 years. Children under the age of about 10 are not adequately protected by the regular car seat belt. Without a booster seat, the child is too low down, and risks stomach injury when the belt tightens under impact. A solidly anchored booster seat will hold the three-point seat belt against the pelvis to reduce the risk of serious injury. And a booster seat with back will improve the fit of the belt against the shoulder and minimise the risk of slipping.



2 FIGURES

60,000

children in Europe are injured each year in accidents, often because of the lack of a child seat or the use of an inappropriate child seat.

30%

of rear passengers involved in an accident in Europe are children.

88%

of young children correctly attached in rear-facing child seats are unscathed in an accident.