

Promoting Child Safety Restraints

Why Child Restraints?

Safety restraints include seat belts, booster and child seats and are a highly effective way of reducing serious and fatal injuries to children.

How do they work?

Child restraints work primarily by restraining children in the event of a crash. The chance of being killed or severely injured is about seven times greater for children who are not belted or restrained¹. 83% of belted and restrained children remain uninjured in accidents. A crash at 50 km/h without a child restraint system is like a 10-meter fall for a child². An 8 year old child with a weight of 30 kg will be thrown forward with a force 25 times of its body weight (i.e. 750 kg). If unbelted, children may strike parts of the car interior during a crash as they move within the car. Often a car door or a window breaks during the impact of a crash through which an unbelted child is more likely to be thrown out. Without a child seat even a crash at only 15 km/h can be lethal³.

Child restraints

Usage of the appropriate child restraints differs greatly across Europe. The worst cases are countries from Eastern and Southern Europe. Much work must be done in improving this ahead of new legislation which mandates the use of appropriate child restraint systems for all children travelling in passenger cars and light vans.

Children need different types of restraints as their body mass is different, the mass of the head of a small child is about 25% of the body mass, whereas the mass of the head of an adult is about 6 per cent of the body mass. This means that the relative forces on the head and neck will be much greater on a child in a forward facing situation. The youngest children up to 18 months are best carried rearward facing. Older children are usually carried forwards on child seats or booster seats.

Type of restraint	Approx. age range	Approx. weight range
Infant carrier or baby seat	Birth to 6-8 months	Up to 10 kg
Child or toddler seat	6-8 months to 3-4 years	9 - 18 kg
Booster seat	6-8 months to 7 years	9 - 25 kg
Booster cushion	3-4 years upwards	15 - 36 kg

Table 1. Seat Belts and Child Restraints (ETSC, 1996)

Parents need to be motivated to restrain their children correctly. In addition, they need to know which restraint system is most suitable, how to fit the system correctly to the car, and they must be willing and able of spending money to buy and renew the child restraint in time. Age-related child seats can only be used for a limited period and financial restraints might prevent parents from making changes when appropriate. It is often seen that a child is restrained in a system for which it is either too old or too young. One solution is a rental or loan programme.

Loan programmes for infant seats have been used in Sweden since 1983 and are also common practice in some of the other EU Member States, including Finland, Germany and the UK. For a low fee or sometimes without charge the parents can get an infant seat at the maternity ward where the child is born. Results have been very positive.

EU legislation

EU legislation currently in force (Directive 91/671/EEC) requires that all children under 12 years of age have to be restrained by an approved restraint system suitable for the child's height and weight.

The Directive leaves scope for Member States to allow children of 3 years and older to be restrained by an adult seat belt. It also permits Member States to exempt children younger than 3 years of age from wearing child restraints if they are seated in the rear and if child restraints are not available in the car.

In 2003, a new reinforced legislation was passed. The Directive (2003/20/EC)⁴ mandates the use of appropriate child restraint systems conforming to UN-ECE standard (Regulation 44.03) (its adaptation or equivalent) for all children traveling in passenger cars and light vans. The only permissible exemption concerns children younger than 3 years of age who may or may not wear seat belts (typically lap belts) in coaches and taxis (See also ETSC Fact Sheet on Seat Belts). This Directive has to be transposed into national law by May 2006. Some countries apply stricter provisions than those included in the 1991 Directive already (see Clifford Chance report, part I⁵ and part II⁶).

How can the use of child restraints be improved?

Seat belt wearing rates can be improved through the implementation of existing legislation and preparation of the new legislation. This occurs through a mixture of measures including police enforcement and education and information.

Police enforcement

Enforcement actions, such as 'blitz' actions lasting only one to four weeks, can be very effective also in the case of child restraints. To achieve long-term effects, they should be repeated several times a year. High levels of publicity are crucial for optimising the effects of enforcement⁷. In its 2004 recommendation on enforcement⁸, the European Commission recommends that enforcement actions be carried out at least three times a year, in places where there is an increased accident risk. It is important that every detected offence is properly followed up and that sanctions are appropriate and dissuasive.



Photo: Police Wuppertal North Rhine Westphalia, Germany

To promote child restraint use in **Germany**, the police force from the town of Wuppertal in North Rhine Westphalia set up an advice centre for citizens in March 2004 where regular consultation talks take place. The public are particularly interested in the practical application of child restraints and advice on possible misuse. Police work directly with parents before the birth, training teachers in schools and organising information sessions for parents at school. They also monitor road traffic collisions resulting in injuries amongst children.

Education and Information campaigns

Education or information campaigns may involve preparing the public for law change and providing drivers with information about the consequences of driving belted or unbelted. A wide variety of approaches can be used, ranging from simple leaflets, elaborate television clips to providing opportunities for the public to experience the forces involved in even very minor crashes (for example with the aid of seat belt 'sleighs').

The **Netherlands** conducted an extremely effective campaign targeted at increased seat belt wearing rates for 4-12 year olds. The campaign centred on a toy armadillo which is attached to the seat belt and was accompanied with TV and radio adverts, billboards, school resource material. (www.gorderldier.nl) The seat belt wearing rate went up from 52% in rear for 4-12 year olds in 2002 to 69% in 2004.

A new project called Euchires is now being introduced to ten other EU countries (Belgium, Catalonia, Czech Republic, Finland, Germany, Poland, Portugal, Slovenia, Spain, Sweden and Austria) led by the Belgian Institute for Road Safety. It is being co-funded by the European Commission.

A campaign was launched as part of the Euchires project in **Germany** for example. The campaign (www.gordan-online.de) is centred on the toy armadillo. The German Road Safety Council (DVR) conducts the campaign on the proper safety restraints aimed at parents. Moreover, the German Federal Highway Research Institute (BAST) published a new information brochure on the proper safety restraints aimed at parents.

In **Belgium**¹⁰ the obligation of using adapted car seats has not existed to date. But due to the new European Directive the Belgian Road Safety Institute has published a new information brochure on the proper safety restraints aimed at parents.

In **Austria**¹¹, under the chairmanship of the Ministry for Transport, the internet campaign "Alles über Autokindersitze" (all about child seats) was launched. It is a one stop shop on child restraints, consumer information and technical and statistical facts.

References

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VERA 2 Video Enforcement for Road Authorities 2004

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