



# ANEC

## The European consumer voice in standardisation and certification



## CRS for children with special needs – a need for better provision?

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Protection of Children in Cars -  
8th International Conference  
Munich 2 - 3 Dec. 2010



# *Objectives of ANEC survey*

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The main objectives

- identify problems and needs of children with special needs for a safe transport in cars
- understand the CRS market offer
- share safe solutions and good practice among different countries in order to ensure that all children have access to the same minimum protection in cars

***“Important note:***

*It is not the intent of this study to challenge existing solutions and make it more difficult for parents, but to build on improving what already exists and sharing the information for a better protection of all children in Europe.”*

# Scope

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Children with special needs in **private cars** - situations where a standard approved Child Restraint System (CRS) could not be used.

Special needs may be:

- medical, physical and/or behavioral
  - **Temporary**/short term: Premature and low birth weight infants, hip dysplasia, injuries, surgery... or
  - **Permanent**/chronic: poor head / neck control, poor body tonus,...
  - and they may change over time, as the child grows.
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# *Method*

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In 2009:

- **questionnaire** on “Use of Child Restraint Systems (CRS) for children with disabilities for transport in cars” - sent to members of the ANEC network in the EU Member States and EFTA countries as well as the European Disability Forum (EDF).
  - online **literature survey** (studies, reports, handbooks, guidelines, leaflets)
  - online **market survey** checking CRS availability and conformity with safety regulations, type of disability covered, size/weight of children and price in order to determine availability and accessibility.
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# *Results - Questionnaire*

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**5 countries** replied:

Finland and Iceland (Government views)  
Norway, The Netherlands and Portugal

**Comments and testimonies** were also received from 3 individuals

- one CRS expert
- 2 mothers from Belgium

# *Results - Questionnaire*

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## **Individuals testimonies**

*Mother nr 1 - "my oldest son was born with a **dislocation of the hips** and we were **told by the doctors** that we could let him use the ordinary baby seat for the car as long as we stuffed it, in order to allow for my baby to be seated without the sides of the chair pushing on his hips."*

# Results - Questionnaire

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## Individuals testimonies

Mother nr 1 - "my oldest son was born with a **dislocation of the hips** and we were **told by the doctors** that we could let him use the ordinary baby seat for the car as long as we stuffed it, in order to allow for my baby to be seated without the sides of the chair pushing on his hips."

Mother nr 2 - "I didn't really ever sort it. I contacted so many different people and there just is nothing on the market to allow for safety in such circumstances (**legs with casts**). The best option offered to me, was to sit Kayli in a 'flat-ish' car booster / back seat (i.e. one that doesn't raise your legs too much). Then behind the front passenger chair I placed a footstool (proper padded square footstool) with a large pillow on top, which elongated the car seat for her and she was at least comfy. We made sure travel was limited though and had to be absolutely necessary in view of the risk of any impact on out-stretched legs."

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## *Results - Questionnaire*

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### **1. Is there any national law or regulation in your country that specifies the transport of children with disabilities in cars?**

All respondents have national regulations for children in general, demanding the use of R44 approved CRS. No specific Regulation for children with special needs

**Finland, NL and Portugal** - if children have a special need where a standard CRS cannot be used they can be exempted with a medical statement officially approved.

**NL and Portugal** - Children in taxis are also an exception of the CRS law

## *Results - Questionnaire*

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### **2. What means are used to transport children with disabilities in cars?**

**Finland** - Special safety seats and seats made individually by some companies; must be in accordance with product safety regulations.

**Iceland** - If a child can use a special CRS it is R44 approved.

**Norway** - Adjusted chairs and/or beds, technical aids, lifts/platforms/ramps to help the child in and out of the car, anchors to secure the wheelchair in the car, adapted restraints

**Netherlands** - a few CRS-companies can adapt a normal (R44) CRS into a CRS for the specific need. The extra costs for the adapted seat can be paid by the government for handicaps that are chronic.

**Portugal** - difficult to find specific CRS for children with disabilities, all must be imported and they are very expensive (e.g. 1125-1350 € depending on having ISOFIX or not). Tumble forms often used and adapted to become a CRS by occupational professionals; Difficult or it may take a long time to get financial support to purchase this or other specific CRS or adapted restraints as technical aids.

# Results - Questionnaire

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**3. Are you aware of consumer / parent groups, or consumers /parents concerned with the issue? What are their main concerns? Are there organisations that give advice and support to parents for a safe transport of their children?**

**Iceland** – concern from **parents** and **health professionals**; children in **ambulances** is also a concern

**Norway** – concern from **National Association for Parents with Children with Disabilities** and **The Norwegian Council for Road Safety**; **Advice** and technical adjustment from **National Insurance Administration, Assistive Technology Division**

**NL** – concern with transport on a daily base to day-care or school in **taxis**; the use of CRS with small babies that have **dislocated hips** and are treated for some months with a **hip-cast**: **no** good **short term solution** on the market and **no time and money to adapt** a normal CRS (treatment is mostly a few months)

**Portugal** – concern from **APSI (Association for Child Safety Promotion)** and individual professionals (**pediatricians, physiotherapists,...**); **Ambulances** are also an issue

## *Results - Questionnaire*

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### **4. For which age/weight groups of children do technical solutions exist? For what type of disability?**

**Iceland** - CRS **Britax** for children with special needs. **Carry cots** and **Special belts** that are hooked up with seatbelts and a **net**. R 44 approved. They are approved by the Danish Traffic safety Con.

**Norway** - **Besafe** produces chairs for children with disability, named BeSafe iZi Kid Handicap.

The National Insurance Administration, Assistive Technology Division, provides parents with the different technical solutions. They buy them from **different producers**.

**NL** – **difficult** to find solutions for **temporary disability** like dislocated hip

## ***Results - Questionnaire***

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**5. Do the technical solutions need a national approval before they are used in cars? What kind of national standard is applied?**

In general all safety seats for children must be **ECE R44 approved**

**Portugal** – If not R44 approved, there is a need for an approval by the road authority, but there is **no technical criteria**; just **administrative work after a medical certificate**

**6. Are there any accident data or case studies available related to injuries and/or death of children with disabilities?**

**Iceland** – refers to two cases

# ***Results – literature survey***

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**Online brief literature survey** (reports, studies, guidelines, leaflets)

**Published academic papers** (ch. w/sp. needs in cars) focused on:

- parents' or drivers' perceptions
- observed use and misuse of child restraints,
- crash tested solutions for children with special needs (in particular children in body casts).

Mostly from USA; some date back to the end of the 80's (transporting children in body casts 1989) and 90's. Since 2000, research from Sweden (2002) and Israel (2007) have also been published in English

**Guidelines /leaflets / brochures** for parents/care takers and health professionals were found or reported to exist in English (USA, Canada, UK), Danish and French (Canada).

**Reference to loan schemes** based in hospitals or rehabilitation centers could be found in USA, UK and Canada (for temporary situations: hip dysplasia or surgery to the legs, premature and low birth weight infants)

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# Results – literature survey

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Concerning **Laws and Regulations**, furthermore to the information provided by The Netherlands, Finland and Portugal (answers to the questionnaire) about **exemptions to the use of a CRS**, the same information was found for **France and Canada**.

*“The Canadian Medical Association has strongly stated, **“there are no medical conditions that justify exemption from wearing a seatbelt”**(2006, p. 90).*

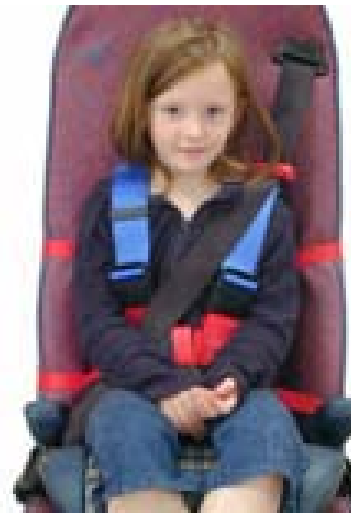
*“There is the possibility that **physicians who issue exemption certificates may be liable in the event of injury or death** arising from the non-use of a seatbelt assembly (College of Physicians and Surgeons of Manitoba & Manitoba Medical Association, 1998)”*

*In “Transporting Infants and Children with Special Needs in Personal Vehicles: A Best Practices Guide for Healthcare Practitioners” - Road Safety Transport Canada - January 2008*

# Results – market survey



Tumble forms from Sammon's Preston (US) – also found in Europe and Australia



Harness to hold the child's body

Medical Plus



## Results – market survey

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R44/03  
approved

**Sascha** – up to 60 kg

Basic price: 1600 €

<http://www.schuchmann-reha.de>



**Siggi** or **BeSafe Handicap**

3 different sizes: G0/I – G I – G II/III

**Up to 18 kg – Reward Facing**

1390 €

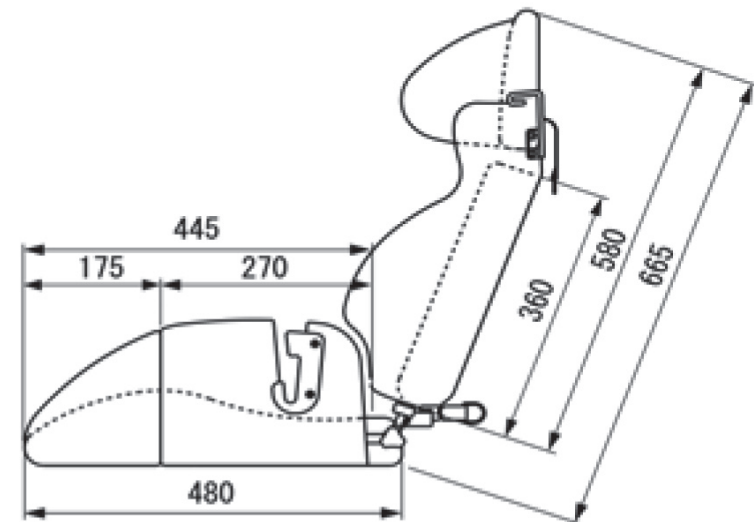
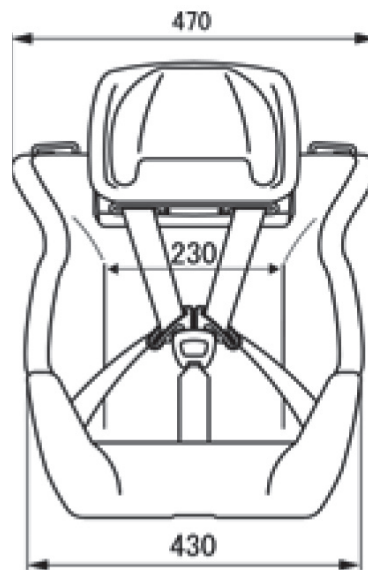
# Results – market survey



**Carrot II** for children from 15 to 50 kg and up to 160 cm

**R44 approved** 15-36 kg; also tested with a 49 kg dummy

**Basic price:** 1280 € without accessories



<http://www.rehanorm.de/produkte/autositze/carrot.htm>

# Results – market survey

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**Recaro Start Plus Car Seat**

14 – 36 kg

**Successfully crash tested and approved car seat for use in the USA and Europe**

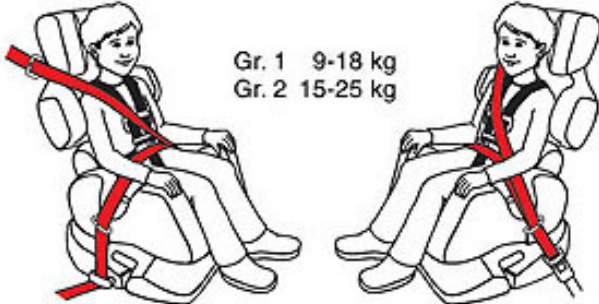



**Recaro young sport**

9-36 kg

Body control

# Results – market survey

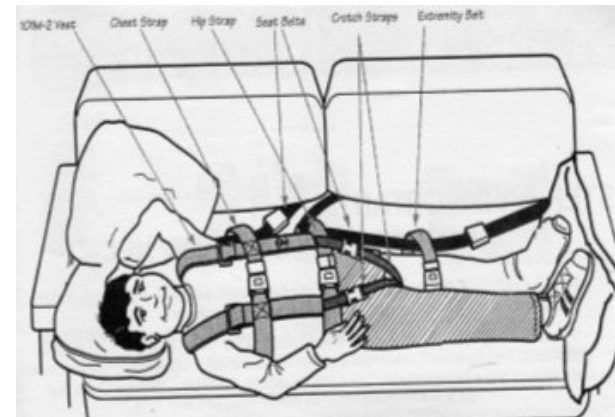
<b>UNISAFETY® SWING</b>	
 <p>Gr. 1 9-18 kg Gr. 2 15-25 kg</p>	<p>Rigtig seleføring. Correct placement of seat belt. Korrekte Gurtführung. Vyö oikein.</p>
 <p>Selelås skal fæstnes til brystselen i stolens bagkant.</p>	<p>The belt lock on the back corner of the Unisafety® car seat attaches to the diagonal car seat belt. Gurtverschluss am Brustgurt an der Rückkante des Sitzes befestigen. Valjaslukko on kiinnitettävä olkavyöhön tuolin takareunasta.</p>
<p><b>ECE R44-03</b> Universal 9-25 kg S</p> <p><b>E5</b></p> <p><b>NR. 03151 EXT. I</b></p>	
<p>Patent Pending • Made in Denmark By CARFIX SEATING DK-8220 Brabrand</p>	



# Results – market survey

Monterey  
9 to 36 kg – up to 150 cm

<http://www.cree.fr/>



E-Z-On Harness – Gr. I/II/III  
Using ALL three Adult Seat Belts

Europe, US, Canada

[http://www.incarsafetycentre.co.uk/catalog/product\\_info.php/](http://www.incarsafetycentre.co.uk/catalog/product_info.php/)



## *Results – market survey*

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Child size TheraPedic™ Positioning Seat is recommended for children up 150 cm tall, weighing 9 a 45 Kg

The Small Adult TheraPedic™ Positioning Seat is recommended for teenagers and small adults from 135 a 165 cm) tall, weighing up to 58 kg

The **Child TheraPedic™ Positioning Seat, CM2000**, has been crash tested and has met the following regulations for use as an approved car seat:

- **U.S. federal safety standard FMVSS #213**
- **NOT approved for use in Canada**
- **European safety standard ECE R44.03**

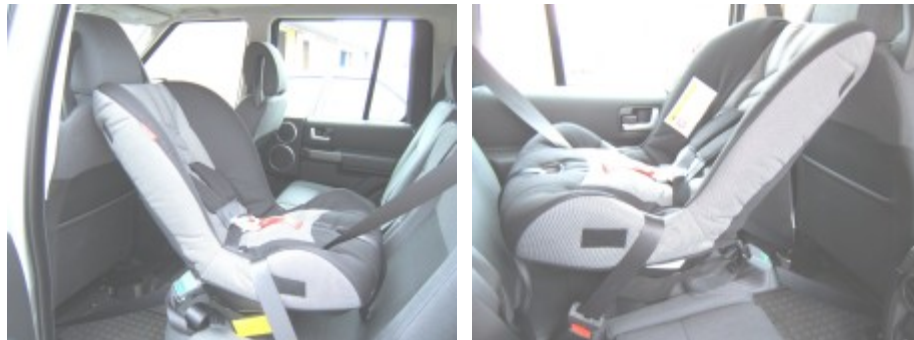
The Child TheraPedic™ Positioning Seat, CM2000, is also FAA approved for use on US airlines.

[http://www.pattersonmedical.com/app.aspx?cmd=get\\_product&id=77503](http://www.pattersonmedical.com/app.aspx?cmd=get_product&id=77503)  
<http://aides-techniques.handicap.fr/prd-siege-coussin-voiture-83-68.php>



# Results – market survey

2-Way Elite - Adapted for **Hip Spica** (Britax Excelsior Ltd)



Group 1/2 - 9 to 25Kgs  
Rearward Facing or Forward Facing  
up to 25Kgs

Britax Nordic Two-way Elite  
in a Ford Focus

Maxim recline rearward facing 45°

Extended Crotch Strap

Additional Foam Pad Supports

'5' Point Harness to 25Kgs

Rear facing tether straps supplied

The seat must be used rear facing. Apart from being safer it's also the only way for the child to travel in a comfortable position.

**LOAN SCHEME £196.75**

same price as purchasing...

[www.incarsafetycentre.co.uk/hipspica.html](http://www.incarsafetycentre.co.uk/hipspica.html)



[http://www.noc.nhs.uk/ourservices/documents/car\\_seat\\_info.pdf](http://www.noc.nhs.uk/ourservices/documents/car_seat_info.pdf)

## Results – market survey



### Hippo Spica Cast Car Seat

(designed by Snug Seat,  
together with Britax USA)

- complies with FMVSS-213 standards.

Specifically for children that have undergone leg and/or hip surgeries and have been placed in casts for several weeks while in recovery.

- maximum user height 122.5 cm
- can be used in the following configurations:
  - Rear facing for children 2,3 kg to 15 kg (must be reclined)

RwF mandatory up to 9kg AND at least 1 year old

- Forward-facing (reclined) max. weight is 15 kg
- Forward-facing (must be upright) user weight is 15,5 - 29 kg
- has only been crash tested and approved for use in the USA. **Cannot be sold outside USA.**



# Results – market survey

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- **FMVSS213** approved special needs transportation system for infants with **low birth weight and premature infants** that require a supine or prone position while travelling in the car.
- comes standard with support and safety features that will provide exceptional protection and positioning support for infants.
- specifically designed for use in the back seat of a car. It is not recommended for use in the front seat of the car or as a positioning system in airplanes.
  
- Supine or prone positioning car bed for infants and premature infants with special needs
  - Recommended for infants weighing under 4 kg
  - Maximum user length is 51 cm



AngelRide™ Infant Car Bed

**Not certified as complying with Canadian Regulation CMVSS as of December 2007**

## *Conclusions and comments*

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Transport of children with special needs in private cars:

There is an **issue** to tackle

**Questionnaire** – Few answers to ANEC questionnaire; no data on accidents and injuries to children with special needs; concern also with lack of solutions for ambulances, taxis and school buses

**Literature review** – search in English only; rising concern, although still quite few papers

One of the most worrying conclusions is that, at the moment, it seems to be **easier to get a legal exemption** from using a child restraint than to find safe and accessible alternatives, particularly when it comes to temporary disability.

# *Conclusions and comments*

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## **Market survey**

- more or less same models in all countries
  - some are standard R44 approved CRS adapted for special needs (more body support most of the time)
  - easier to find crash tested solutions for children up to 36 kg
  - more solutions for chronic disability / body balance control – R44 approved CRS adapted (extra harness, vests, padding and other accessories)
  - prices, without accessories, are already high
  - harder to find a crash tested solution as the child grows
  - some models accepted in USA are not accepted in Europe or Canada
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# *Conclusions and comments*

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**Fewer solutions for temporary disability** – more likely to use a homemade solution that can put the children at risk in the event of a crash.

**Lack of awareness** and/or **knowledge on safe, available and accessible** solutions also leads to artisanal alternatives

Children are at a higher risk in the event of a crash when using, e.g.:

- additional soft padding behind / under the child or the harness
- tumble forms adapted to be used as a car seat without crash test references



## *Recommendations (1/3)*

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All children need safe solutions for transport at all times

**Exemptions** to the use of a CRS should **not be encouraged** due to costs and / or lack of availability.

Any actions should not render the CRS even more **expensive** because of more demanding requirements or crash tests.

**Joint efforts** are needed from industry, regulators, health and rehabilitation professionals, consumer organizations and other relevant stakeholders to improve the **availability and accessibility of safe solutions**

**Temporary special needs:** promote **loan schemes** or other ways of providing a safe CRS for a short period, at an acceptable cost (avoid homemade solutions) – cooperation between CRS industry, health organizations, insurance companies (?)

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## *Recommendations (2/3)*

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CRS for special needs crash tested and considered to be **safe in one country** should be **legally accepted anywhere else**

**Take away administrative barriers: Harmonize** safety requirements throughout the World

A job for UN-ECE? Or? ...

Ensure that the **new CRS regulations** under development take into account the needs of children with chronic or short term disabilities.

Any adaptations to a CRS should be carried out by competent professionals to avoid the introduction of new risks for the child.

## *Recommendations* (3/3)

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Develop and/or **share good practice** through training programs for health and rehabilitation professionals

Share information, promote transparency and steer competitiveness

→ Create an **international online database** providing information on all available seats suitable for children with special needs as well as contact details of counselors and providers in different countries / locations, with the recommended maximum price.

→ Support from CRS industry, insurance companies, health ministries, road authorities?

Better and more uniform advice must be provided to consumers, health professionals and the technical community as a whole



**This International Conference could be a  
good Forum to start cooperation**

**Thank you for your attention!**

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**[www.anec.eu](http://www.anec.eu)**