



accidents don't have to happen

Child Car Seats - Explained

Cross Party Group – June 2017

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accidents don't have to happen

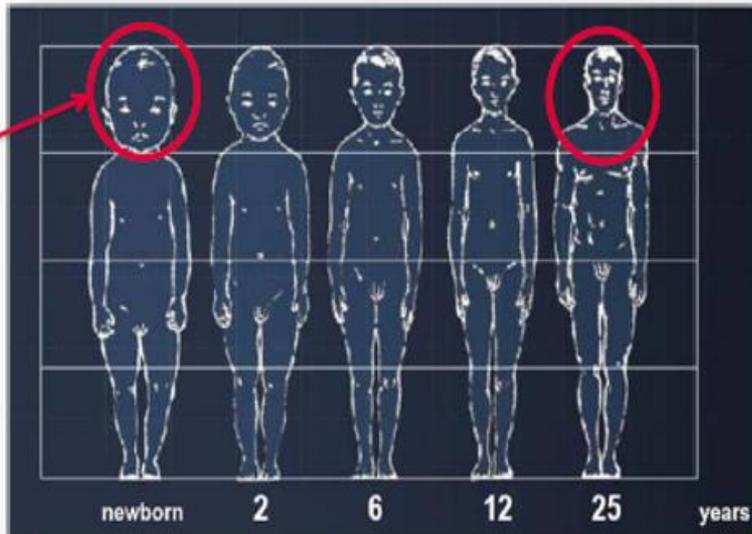
In Car Safety

All children travelling in a car must use correct child restraint for their weight and height

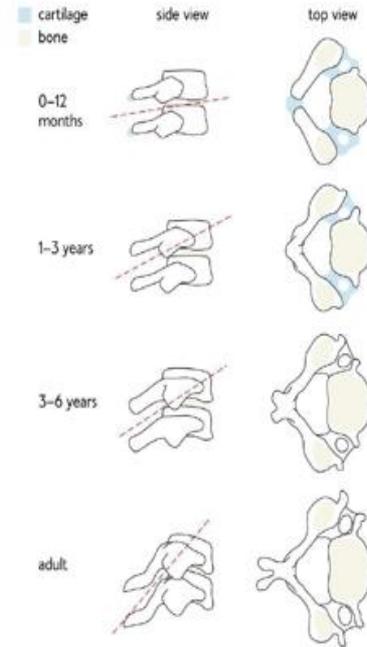
- Until they are 135 cm tall or 12 years of age



Head is heavy
and
neck is weak



Head mass to total body mass:
Newborn 25% vs. Adult 6%!



Neck is less resistance in
shearing as well as tension for
small children.

- In rear facing travel the head and neck are supported by the child seat in a frontal collision (the most common type of accident).



Spreading loads to protect the weak neck area

Vehicle Displacement



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FROM BIRTH

Group 0/0+

REARWARD FACING - affixed by vehicle seatbelt



FROM 9 – 12 months

Group 1

FORWARD Facing – affixed by vehicle seatbelt



From 4 Plus

Group 2/3

FORWARD Facing – child secured by vehicle seatbelt



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Forward v Rearward facing pros and cons



- Research has shown a child can be up to **five times** safer being carried rearward facing
- Rearward facing can now be extended to approximately 25 kg
- Forward facing allows child to be seen easier ?
- Reduced requirement for space with forward facing
- Tendency to 'feel' forward facing is more natural.

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Isofix

- Introduced by Britax Romer to simplify child seat installation
- Fixes to body of car at three points, two anchor points and top tether/leg support
- Became part of ECU 14 and 44 in Feb 2004
- All new cars manufactured since 2013 must be fitted with ISOFIX and top tether points



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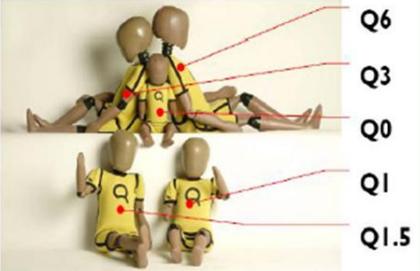
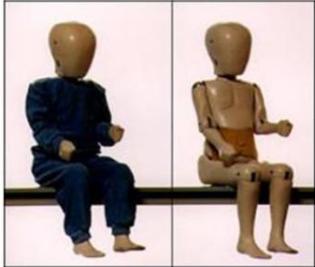
i-size – its all about height

- New legislation ECE R129 came into force 9 July 2013 in parallel with R44/04
- Side Protection included in testing
- Mandatory for all children to be carried rearward facing until at least 15 months (0 and 0+) (up to 83cm)
- Car Seat position in vehicle must be approved



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Side Impact Testing

	ECE R129	ECE R44
Side Impact Testing	 <p>Insert SI movie (R129)</p>	No side impact test
New generation dummies	<p>Q Series Dummies</p>  <ul style="list-style-type: none">• More biofidelic• 30+ channels of data	<p>P Series Dummies</p>  <ul style="list-style-type: none">• Less biofidelic• 3 channels of data



ECE R44 Continues to evolve – most significant recent changes

- **June 2013**



540 ° roll-over test



Airbag warning label

- **January 2017**



No new R44 approvals (or extension of approval) for booster cushions for children below 125cm

- **September 2017**

- No approval of new ISOFIX integral products

- **September 2020**

- No extension of ISOFIX integral products

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Booster cushions – New Legislation

- 9 February 2017 – booster seats manufactured for only children in excess of 22kgs **and** over 125cm tall.
- Existing booster seats/cushions can still be sold and used.
- RoSPA always recommend leaving the back on a booster seat to give lateral support



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Duty of Care

All children up to age of 12 must be carried in an approved seat - **DRIVER**

Local Authorities/Care Organisations -
Carrying other peoples children?

In Car Safety

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