INSTALLATION OF CRS WITH VEHICLE SEATBELT
Misuse rate and range of use

GRSP Informal group on CRS – Phase III

Philippe LESIRE – LAB - 22nd of June 2017
Data source: compilation of 3 surveys (BSRI2011, BSRI2014, DAL2015)

- Original sample of observations: 3893 children
- For the present study, need to removing children using
  - Seatbelt only
  - booster cushions
  - ISOFIX fixed CRS
- Harness and shield systems that should be restrained by the vehicle seatbelt: 1191
  - Not restrained: 34, Unknown: 7
  - Final sample: Restrained with seatbelt: 1150
Selection of CRS 1141 children

– Only the ones for which the usage group(s) of mass is known:
  • Convertible (G0_0+/1 or G0/1/2/3): 210 (208+2)
  • Only transversal installation: (G0): 18
  • Only rearward facing installation (G0_0+ or G1)= 230
    (2+ 228+0)
  Only forward facing installation (G1 or G12 or G123): 687
    (537+0+150)
  • For others CRS, the group mass is not known
Selection of CRS among 1141 observed children

– Proposal of analysis:
  • Convertible (G0_0+/1): 208
    – Misuse installation rate
    – Distribution of use FWD/RWD FC
    – Distribution of age (FWD/RWD FC)(under 2 years) 80 children
  
  • Only rearward facing installation (G0_0+): 230
    – Misuse installation rate
    – Distribution of age (under 2 years) (217)

  • Only forward facing installation (G1): 537
  • Proposal: select only CRS with model known: 247
    – Misuse installation rate
    – Distribution of age (under 2 years) (124)
## Analysis

<table>
<thead>
<tr>
<th>CRS type</th>
<th>Installation misuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONVERTIBLE CRS</td>
<td>57/208</td>
</tr>
<tr>
<td></td>
<td>27.4%</td>
</tr>
<tr>
<td></td>
<td>% installation misuse similar for FWD and RWD facing installations</td>
</tr>
<tr>
<td>REAR INFANT CARRIER</td>
<td>95/230</td>
</tr>
<tr>
<td></td>
<td>41.3%</td>
</tr>
<tr>
<td>APPROVED ONLY GROUP 1</td>
<td>43/247</td>
</tr>
<tr>
<td></td>
<td>17.4%</td>
</tr>
</tbody>
</table>

_Data source compilation of observation databases (2011-15)_

**Questions:**

_Interesting to known why (reasons) people using convertibles are doing misuse (voluntary, too complex,...)_

_What kind of installation misuse are done?_
# Analysis

<table>
<thead>
<tr>
<th>CRS type</th>
<th>RWD FC installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONVERTIBLE CRS</td>
<td>10/198</td>
</tr>
<tr>
<td></td>
<td>5,1%</td>
</tr>
<tr>
<td>REAR INFANT CARRIER</td>
<td>200/230</td>
</tr>
<tr>
<td></td>
<td>87,0%</td>
</tr>
<tr>
<td>APPROVED ONLY GROUP 1</td>
<td>0/247</td>
</tr>
<tr>
<td></td>
<td>0%</td>
</tr>
</tbody>
</table>

*Data source compilation of observation databases (2011-15)*
AGE OF CHILDREN(months) IN CONVERTIBLE CRS

Data source compilation of observation databases (2011-15)

Early switch to FWD facing direction
AGE OF CHILDREN (months) IN G0 /0+ CRS

Data source compilation of observation databases (2011-15)

Also used in FWD facing direction very early
AGE OF CHILDREN (months) IN G1 CRS

Data source compilation of observation databases (2011-15)
First conclusions

• Rate of installation misuse of rear infant carrier is a big concern

• Rate of misuse of installation is higher with convertible restrained with the seatbelt than G1 with only one possible seatbelt route (27% vs 17%)

• The rate of use RWD facing is very low for convertible (5%)

• Use forward facing is visible far too early both for convertible and group I system: need of information and education of parents

• To be done: Is it possible to see when transfert from integral to non integral is made by parents/children?