Test Results of UMTRI Seating Procedure

60th GRSP Informal Group on Child Restraint System
13th September 2016
NTSEL
Purpose

Comparison of the test results between the current seating procedure and UMTRI seating procedure in R129 test condition.
Test Conditions

Dummy: Q6 (without abdominal sensor, without Hip liner)

Test bench: R129 test bench

Booster seat: available in Japan
Test Video

R129

UMTRI

National Traffic Safety and Environment Laboratory
# Results

<table>
<thead>
<tr>
<th></th>
<th>unit</th>
<th>R129</th>
<th>UMTRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head excursion</td>
<td>mm</td>
<td>404</td>
<td>389</td>
</tr>
<tr>
<td>Head acceleration (3m)</td>
<td>G</td>
<td>68</td>
<td>67</td>
</tr>
<tr>
<td>Upper neck tension force (Fz)</td>
<td>N</td>
<td>1979</td>
<td>1976</td>
</tr>
<tr>
<td>Upper neck flexion moment (MY)</td>
<td>Nm</td>
<td>50</td>
<td>52</td>
</tr>
<tr>
<td>Chest acceleration (3ms)</td>
<td>G</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>Chest Deflection</td>
<td>mm</td>
<td>25</td>
<td>23</td>
</tr>
</tbody>
</table>

Injury measures are almost similar as for the current research.
Appendix
Results

Head acceleration

Accelerai\n\[\text{Time (ms)}\]

R129 UMTRI

National Traffic Safety and Environment Laboratory
Results

Upper Neck Tension Force

- R129
- UMTRI

National Traffic Safety and Environment Laboratory
Results

Upper Neck Flexion Moment

Upper neck flexion moment (Nm)

Time (ms)

[Graph showing time (ms) on the x-axis and upper neck flexion moment (Nm) on the y-axis, with two lines labeled R129 and UMTRI, representing data from the National Traffic Safety and Environment Laboratory.]
Results

Chest acceleration

- **R129**
- **UMTRI**

![Graph showing chest acceleration over time for R129 and UMTRI.](image)

National Traffic Safety and Environment Laboratory
Results

Chest deflection

![Graph showing chest deflection over time for R129 and UMTRI.]