GTR HR2
WebEx meeting 20150827

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Correlation ($R^2$)

Head rel. T1 angular displacement around the y-axis Pulse NCAP medium = 16 km/h, average 5.5 g, triangular 10 g peak

<table>
<thead>
<tr>
<th>Male and Female data</th>
<th>Permanent Medical Impairment</th>
<th>Symptoms &gt; 1 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter</td>
<td>Complete</td>
<td>Maximum</td>
</tr>
<tr>
<td>HA-TA (extension)</td>
<td>0.35</td>
<td>0.42</td>
</tr>
<tr>
<td>HA-TA negative (flexion)</td>
<td>0.13</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Maximum and Minimum refer to the values obtained in the analysis carried out when one of the 17 datasets was systematically removed
Correlation ($R^2$)

NDCrot value ($12^\circ$) is well within the physiological range of most people. There must be a time component that says that this range happened quickly.
Correlation ($R^2$)

$y = 0.003188 + 0.0027193x$  \[ R = 0.7694 \]
Example approach to develop a risk function 1

Make data binary

![PMI versus NIC graph](image)
Example approach to develop a risk function 1

PMI versus NIC

- PMI > 7.5%
- NIC (m²/s²)

Vehicles:
- Ford
- Hyundai
- Mercedes
- Opel
- Peugeot
- Saab STD older
- Saab STD newer
- Saab SAHR Toyota STD
- Toyota WIL
- Volvo STD older
- Volvo STD newer
- Volvo WHIPS
- VW STD small
- VW STD medium
- VW STD large
- VW RHR
Example approach to develop a risk function 1

![Graph showing the relationship between NIC (m²/s²) and PMI > 7.5%.

The x-axis represents NIC (m²/s²) ranging from 10 to 40, and the y-axis represents PMI > 7.5% ranging from 0 to 1. The graph shows an increasing trend as NIC increases.]
Example approach to develop a risk function 2

- Reconstruction of each accident.
- Since crash severity is unknown a generic pulse will be used.
- Occupant characteristics known but BioRID II only one size. No scaling can be applied.
- Since pre-crash occupant posture is unknown a default BioRID II posture will be used.