EuroNCAP test results
Phases 12 – 17

Lower leg tests
## Test protocol – lower leg

<table>
<thead>
<tr>
<th></th>
<th>EuroNCAP</th>
<th>Draft gtr – INF GR PS 143/Rev1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test tool</strong></td>
<td>&quot;TRL&quot; lower leg</td>
<td>&quot;TRL&quot; lower leg</td>
</tr>
<tr>
<td><strong>Impact speed</strong></td>
<td>40 km/h</td>
<td>40 km/h</td>
</tr>
<tr>
<td><strong>Knee bending angle</strong></td>
<td>15°</td>
<td>19°</td>
</tr>
<tr>
<td><strong>Knee shear displacement</strong></td>
<td>6.0 mm</td>
<td>6.0 mm</td>
</tr>
<tr>
<td><strong>Upper tibia acceleration</strong></td>
<td>150 g</td>
<td>170 g</td>
</tr>
</tbody>
</table>
Lower leg EuroNCAP tests – Knee bending angle

- Test 1
- Test 2
- Test 3
- Test 4
- Test 5
- Test 6

Knee bending (°)

Car number

16-19 January 06  
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Lower leg EuroNCAP tests – Knee shear displacement

Car number

Knee shear (mm)

Test 1  Test 2  Test 3  Test 4  Test 5  Test 6  6 mm limit

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Group - January 06
Lower leg EuroNCAP tests – Upper tibia acceleration

![Graph showing acceleration data for various tests and car numbers.](image)

- Test 1
- Test 2
- Test 3
- Test 4
- Test 5
- Test 6
- 170 g limit

16-19 January 06 Pedestrian Safety GRSP Informal Group - January 06
99 cars tested, only 17 of the tested cars (17%) meet all proposed gtr criteria for lower leg test.

Any complying car would not automatically be certified to gtr requirements, because:

- EuroNCAP only tests the best-seller, i.e. not all possible equipment is included (e.g. washers, radar).
- For Type Approval, worst case is used for assessing vehicle model in all its configurations.

In conclusion, existing models have serious difficulties to comply.