
Update on the WorldSID injury risk curves

on behalf of ISO/WG6 and ACEA-TFD

GRSP Pole Impact Informal Group
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WorldSID 50th injury risk curves

- The development of the WorldSID **50th** injury risk curves was performed on behalf of ISO/WG6 and ACEA-TFD and aimed at promoting a **scientific consensus** from biomechanical experts from international institutions, car manufacturers as well as universities regarding the proposed injury risk curves
- Thanks to the participation of numerous biomechanical experts, WorldSID **50th** injury risk curves were **published** in ISO/WG6/TR12350 and Stapp in 2009

Issue #1 : statistical method

- In 2009, the injury risk curves were given with **several statistical methods** because there was no consensus on the method to be used in the literature
- Since then, progress on the statistical methods within ISO/WG6
 - At the last ISO/WG6 meeting, it was **agreed** to choose the **survival analysis** as a basis to build the injury risk curves

Issue #2 : best predictor

- In 2009, the WorldSID 50th injury risk curves were built as a function of the **commonly used measurements**
- The measurements to be considered as **injury criterion** will be discussed in ISO/WG6
 - For example, the pelvis injury risk curves were built as a function of the $Y_{3\text{ms}}$ pelvis acceleration and of the pubic force → what is the more relevant injury risk curve?

WorldSID 5th injury risk curves

- As for the WorldSID 50th, the development of the **WorldSID 5th injury** risk curves will be performed on behalf of ISO/WG6 and ACEA-TFD and will aim at promoting a **scientific consensus** from biomechanical experts
- The methodology developed for the WorldSID 50th will apply with some preliminary discussions on **scaling of the test conditions**
 - 1st web meeting on the 22nd of February
- ISO/WG6/TR12350 will be updated with the WorldSID 5th injury risk curves

summary

- 50th centile
- Agreement on raw data ✓
 - Agreement on the processing method ✓
 - Construction of WS 50th curves based on several potential injury predictors ✓
 - Agreement on the best predictor(s)
 - Agreement on the recommended threshold(s)

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- Do the same for the WS5th curve(s)

In progress