

## Japan's Comment on Injury Criteria for Amendment of R94

- Table 1 compares the FWRB test, whose introduction into UN Regulation No. 94 as a dynamic test is being discussed, and the ODB test, which has already been introduced in the said Regulation. As shown in the table, the two tests differ in the age as well as gender of the dummy used to determine the chest deflection injury value.

Table 1

	AGE	DUMMIES	SEATING POSITION	MAIN CRITERIA			
				CHEST DEFLECTION	NECK	FEMUR	
ODB	65 yo	driver pass	Male Male	middle	42mm 42mm	3.3 - 3.1 3.3 - 3.1	8 kN-7.58 8 kN-7.58
FWRB	45 yo	driver pass	Male Female	middle	50mm 45mm	3.3 - 3.1 w/o time scale Mt:57Nm 2.9 - 2.7 w/o time scale Mt:57Nm	9 kN w/o time scale 7 kN w/o time scale

A: Difference of the target age between the offset test and full width test

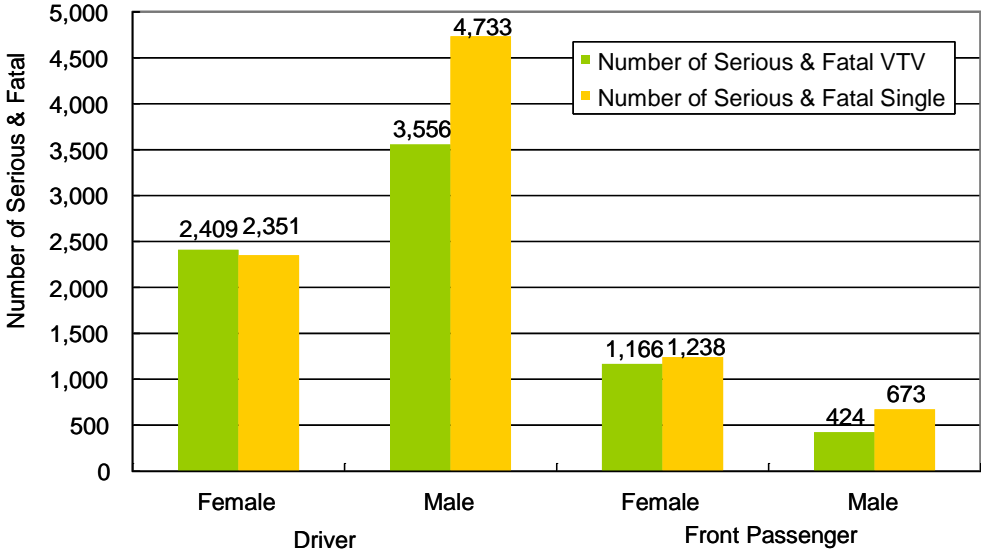
B: Difference of the gender of the passenger dummy between the offset test and full width test

- A Japanese traffic accident survey found that the percentage of elderly occupants in frontal collision accidents fatalities is increasing and that the thorax accounts for the highest percentage among all the body regions injured in accidents where elderly occupants are killed or seriously injured. For these reasons, Japan agrees with the proposal to develop thorax injury criteria based on elderly occupants' injury risk curves. Furthermore, in the numbers of serious injuries and deaths sorted by gender, males account for more on the driver's side and females on the front passenger's side. Therefore, we support the idea of installing the male dummy in the driver's seat and the female dummy in the front passenger's seat.

On the other hand, there are no data showing any difference in the age composition or gender ratio of occupants due to the difference of crash configuration between the full width test and offset test. Hence, we do not see any justification for those age and

gender differences between the two tests and would like the reason(s) for requiring the different dummy conditions for ODB and FWRB to be clarified. We consider the reasons must be known in order for the Regulation to be widely adopted throughout the world as a truly international regulation.

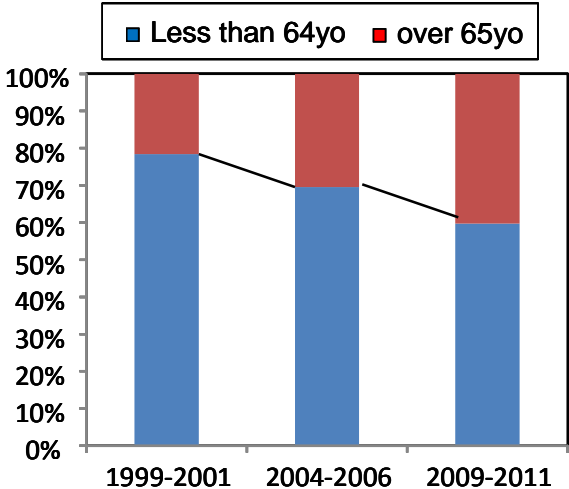
Numbers of Serious Injuries and Deaths by Gender  
on the Driver's Side and Front Passenger's Side



Numbers of Serious Injuries and Deaths, 2004-2008

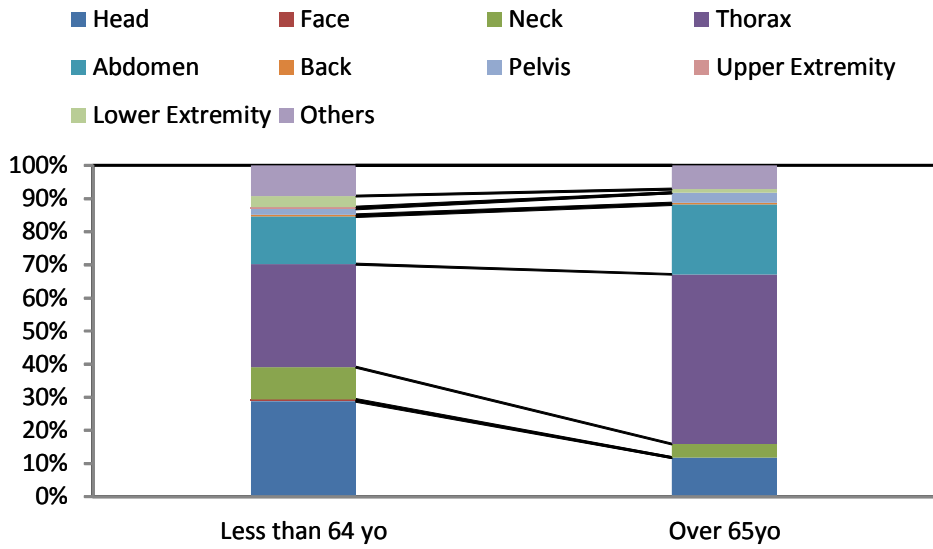
More male occupants are seriously injured or killed on the driver's side and more female occupants on the front passenger's side.

Changes in Composition of numbers of Deaths  
by Age of the Occupant in the Driver's Seat



The percentages of deaths of elderly occupants have increased.

Changes in Composition of Injured Body Regions  
Between Two Age Groups of Occupants Killed in the Driver's Seat



Occupants Killed in the Driver's Seat, 2009-2011

For the age group of over 65, the thorax accounts for the highest percentage.