



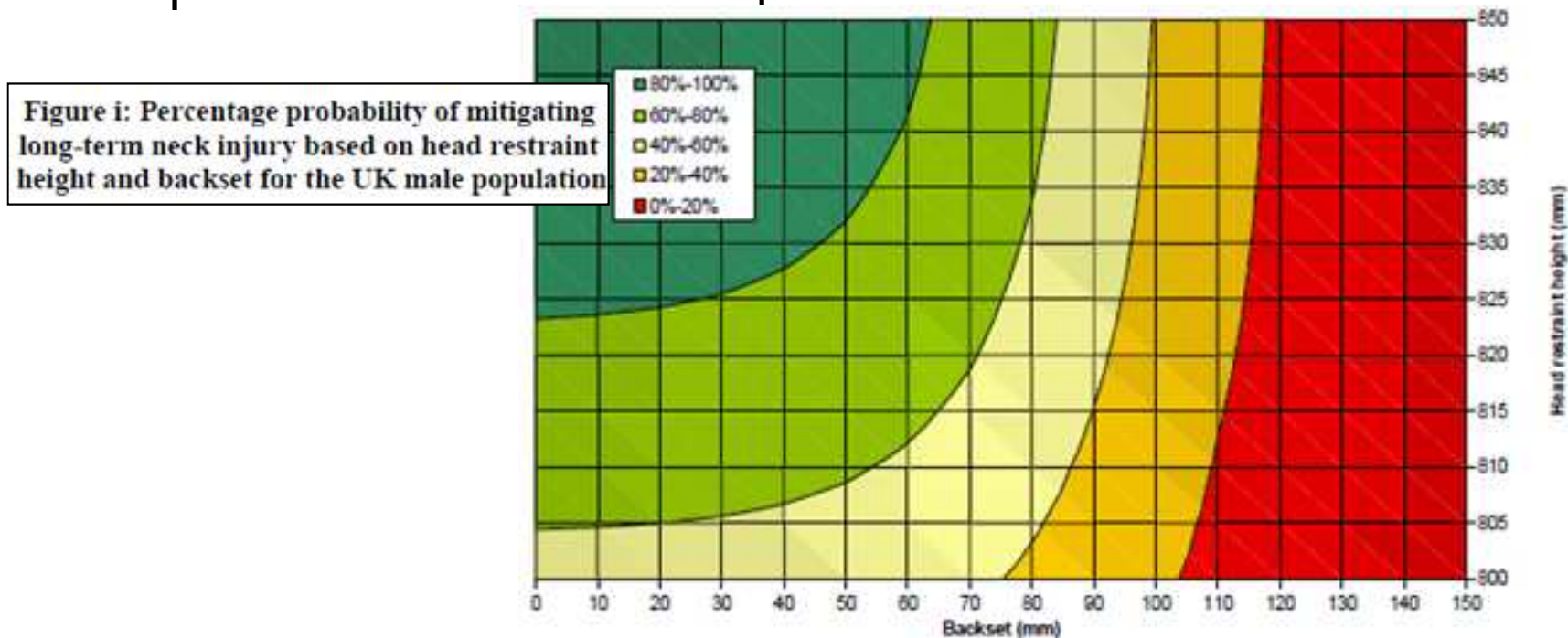
Head restraints: GTR 7 ph2

New procedure for head restraint height

GTR7-10-XX

June, 18th 2012

- Graph from EEVC WG 20 report



- *“ The benefit minus cost value of each option was then calculated along with the benefit to cost ratio (Figure). It was found that the greatest benefit after subtracting the associated cost is expected with a head restraint height of 840 mm and a backset of 40 mm. The greatest benefit to cost ratio should occur with a small change in head restraint height and a backset of 40 mm. The minimum change in regulation expected to yield a benefit to cost ratio of two would be to adopt a backset of 70 mm. “*

- See document HR-6-11 from GTR 7 ph 1

UK calculation of required head restraint height - Method NL

Department for
Transport

- Based upon HR-03-06e / HR-02-14e;
- Using UMTRI 1983 data as reference;
- Height measured as per UN-ECE Regulation 17; height measured in a plane as near to 25° as possible from vertical normal line of the manikin torso ref. line, unless otherwise specified by manufacturer; and
- NL adds a 'conservative' 15mm to account for torso 'ramping' and 'spine straightening' effect.



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- “ *NL adds a 'conservative' 15mm to account for torso 'ramping' and 'spine straightening' effect.* “ (slide 16)

- Data collected from more than 40 vehicles (from small to luxury vehicle).
- All the head restraints measured have a lower height value with the new method.
- The difference between the 2 methods so far is up to:
 - 32mm for front HR
 - 44mm for rear HR
- The new method already generates an increase of the front contact surface height.

- Research data show that the greatest benefit in cost ratio is reached via a combination of backset and height features.
- Ramping-up and spine straightening were already taken into account in GTR 7 phase 1.
- The draft method to measure head restraint height already generates a height increase of the actual head restraints.

No height increase is necessary, GTR 7 should stick to the actual value with the new method.

Thanks for your attention.