

## Retraction: *Car safety seats for children: rear facing for best protection*

Henary B, Sherwood CP, Crandall JR, *et al.* Car safety seats for children: rear facing for best protection. *Injury Prev* 2007;13:398–402.  
DOI: 10.1136/ip.2006.015115

The manuscript '*Car safety seats for children: rear facing for best protection*' was published in *Injury Prevention* in 2007, after peer review. The paper used US data from the National Automotive Sampling System Crashworthiness Data System to conclude that children 0–23 months were less likely to be severely injured when using a rear-facing car seat than a front-facing car seat. This result, along with similar data from Swedish experience and biomechanical studies, has been used as the basis for public education and policy recommendations that favor a rear-facing position for children under age two in car seats.

In 2016, the journal was contacted by a biostatistician employed as an expert witness in a court case involving a car seat manufacturer. She indicated that she was unable to replicate the results of the analysis reported in the Henary *et al* paper.

The same letter was also forwarded to authors of the 2007 study. A subset of that authorship group attempted to replicate the analysis reported in the original published manuscript but were unable to do so. Specifically, they believe that survey weights were improperly handled in the initial analysis, which caused the apparent sample size to be larger than the actual sample size. This resulted in estimates of effect size that appeared to be statistically significant but were not.

It is important to stress – per the authors – there is no evidence that current recommendations are harmful. However, these field data alone are inadequate to statistically support the safety benefit of rear facing seats. Indeed, given the relatively small number of injured passengers in the age range of interest, it is unsurprising that the estimates have wide confidence intervals. Decades of experience might be required to prove a benefit in rear facing position using this data set alone.

Because of serious concerns regarding the magnitude, significance and replicability of the findings reported in this paper, the journal made the decision to retract it.

A revised, peer-reviewed analysis of the same data, and an extended analysis of data through 2015, was published in *Injury Prevention* in November 2017:

McMurry TL, Arbogast KB, Sherwood CP, *et al.* Rear-facing versus forward-facing child restraints: an updated assessment. *Injury Prev*. Published Online First: 25 November 2017.  
DOI: 10.1136/injuryprev-2017-042512

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December 2017

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*Inj Prev* 2017;0:1. doi:10.1136/ip.2006.015115ret

