



# Shopping Cart–Related Injuries to Children

Committee on Injury, Violence, and Poison Prevention

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children

## ABSTRACT

Shopping cart–related injuries to children are common and can result in severe injury or even death. Most injuries result from falls from carts or cart tip-overs, and injuries to the head and neck represent three fourths of cases. The current US standard for shopping carts should be revised to include clear and effective performance criteria to prevent falls from carts and cart tip-overs. Pediatricians have an important role as educators, researchers, and advocates to promote the prevention of these injuries.

## BACKGROUND

Injuries associated with shopping carts are an important cause of pediatric morbidity, especially among children younger than 5 years.<sup>1–6</sup> An estimated 24 200 children younger than 15 years, 20 700 (85%) of whom were younger than 5 years, were treated in US hospital emergency departments in 2005 for shopping cart–related injuries.<sup>7</sup> The most common anatomic site of injury is the head and neck region, accounting for 74% of shopping cart–related injuries among children younger than 15 years, 79% among children younger than 5 years, and 92% among children younger than 1 year. Approximately 4% of children younger than 15 years treated in an emergency department for a shopping cart–related injury require admission to the hospital. Children younger than 5 years account for 93% of these hospital admissions. Fractures are the most common injury resulting in admission, representing 45% of all hospitalizations.<sup>1</sup> Deaths have been reported from falls from shopping carts and cart tip-overs.<sup>8,9</sup>

Injuries to children associated with shopping carts occur via several mechanisms: falling from carts, carts tipping over, and other mechanisms such as becoming entrapped in a cart, falling off a cart while riding on the outside, striking against a cart, and being run over by a cart.<sup>2</sup> Falls from shopping carts and cart tip-overs accounted for 58% and 26% of injuries, respectively, in one study.<sup>2</sup> Among children younger than 2 years in this study, tip-over injuries accounted for 38% of shopping cart–related injuries.<sup>2</sup> Additional details regarding pediatric shopping cart–related injuries are available in the accompanying technical report<sup>10</sup> and a patient safety sheet for distribution to families,<sup>11</sup> both in this month's *Pediatrics Electronic Pages*.

## PREVENTION

Increased prevention of shopping cart–related injuries can be achieved by public education, adult supervision, separation of the child from the hazard, legislation, safety design, and revision of the current shopping cart safety standard (American



An AAP Parent Page accompanying this Policy Statement can be found online at: [www.pediatrics.org/cgi/doi/10.1542/peds.2006-1217](http://www.pediatrics.org/cgi/doi/10.1542/peds.2006-1217)

See related Technical Report on page e540.

[www.pediatrics.org/cgi/doi/10.1542/peds.2006-1215](http://www.pediatrics.org/cgi/doi/10.1542/peds.2006-1215)

[doi:10.1542/peds.2006-1215](https://doi.org/10.1542/peds.2006-1215)

All policy statements from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.

### Key Words

shopping cart, injury, children, safety, injury prevention

### Abbreviation

ASTM—American Society for Testing and Materials

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275). Copyright © 2006 by the American Academy of Pediatrics

Society for Testing and Materials [ASTM] F2372-04).<sup>12</sup> Details are included in the accompanying technical report.<sup>10</sup>

## RECOMMENDATIONS

1. The current US standard (ASTM F2372-04) for shopping carts should be revised to include clear and effective performance criteria for shopping cart child-restraint systems and cart stability to prevent falls from carts and cart tip-overs. To the extent possible, the US Consumer Product Safety Commission should closely monitor compliance and enforce the performance standard for shopping carts.
2. The US Consumer Product Safety Commission should continue to monitor closely the trends of shopping cart-related injuries to children. This will be important for evaluating the effectiveness of ASTM F2372-04.
3. Existing and future state and federal laws regarding shopping cart safety should incorporate an effective performance standard to prevent falls from carts and cart tip-overs, and parents should only transport their child in carts that meet this minimum safety standard.
4. Child health and advocacy professionals and organizations should advocate for a revision of ASTM F2372-04 to include clear and effective performance criteria for shopping cart child-restraint systems and cart stability to prevent falls from carts and cart tip-overs.
5. Health care professionals, child advocates, and parents should encourage businesses that provide customers with shopping carts to adopt safety strategies to help prevent shopping cart-related injuries to children. These may include supervised in-store child-play areas; pick-up areas or assistance bringing purchases to the vehicle to help parents avoid placing their children in carts to take them through parking lots; cart modifications to improve child restraint and cart stability; strollers or wagons provided for in-store use; in-store and community-wide consumer education and warnings; and customer incentives (such as stickers for children, other giveaway items, or cash off at the register) to adopt shopping cart safety behaviors.
6. Health care professionals should educate patients' families about the risks of transporting children in shopping carts, especially about falls from carts and cart tip-overs.
7. Health care professionals should inform the public through the media about shopping cart hazards.
8. The effectiveness of education programs and public-awareness initiatives regarding shopping cart safety should be evaluated.

9. Because of the current variability of shopping cart design and stability and because most parents are not able to ascertain the relative safety of a cart by visual inspection, parents should carefully consider the potential for injury before transporting their child in a shopping cart. Parents are strongly encouraged to seek alternatives to transporting their child in a shopping cart until an effective revised performance standard for shopping cart safety is implemented in the United States.
10. If a parent chooses to transport his or her child in a shopping cart, then an effective, age- and size-appropriate restraining device should be worn by the child at all times. Children should not be left unattended in a shopping cart, be allowed to stand up in a cart, be transported in the basket, or ride on the outside of a cart.

## COMMITTEE ON INJURY, VIOLENCE, AND POISON PREVENTION, 2004–2005

\*Gary A. Smith, MD, DrPH, Chairperson  
Carl R. Baum, MD  
M. Denise Dowd, MD, MPH  
Dennis R. Durbin, MD, MSCE  
H. Garry Gardner, MD  
Robert D. Sege, MD, MPH  
Jeffrey C. Weiss, MD  
Joseph L. Wright, MD, MPH

## LIAISONS

Ruth A. Brenner, MD, MPH  
National Institute of Child Health and Human Development  
Stephanie Bryn, MPH  
Health Resources and Services Administration/  
Maternal and Child Health Bureau  
Julie Gilchrist, MD  
Centers for Disease Control and Prevention  
Alexander (Sandy) Sinclair  
National Highway Traffic Safety Administration  
Deborah Tinsworth, MS  
US Consumer Product Safety Commission  
Lynne J. Warda, MD  
Canadian Paediatric Society

## STAFF

Rebecca Levin-Goodman, MPH

\*Lead author

## REFERENCES

1. Smith GA, Dietrich AM, Garcia CT, Shields BJ. Epidemiology of shopping cart-related injuries to children: an analysis of national data for 1990 to 1992. *Arch Pediatr Adolesc Med.* 1995; 149:1207–1210
2. Smith GA, Dietrich AM, Garcia CT, Shields BJ. Injuries to children related to shopping carts. *Pediatrics.* 1996;97:161–165

3. Parry ML, Morrison LGL, Chalmers DJ, Wright CS. Shopping trolley-related injuries to children in New Zealand, 1988–97. *J Paediatr Child Health*. 2002;38:51–54
4. Tully S. Injuries to children in shopping carts. *AAP News*. 1993; 9:11
5. Campbell M, Ferguson J, Beattie TF. Are falls from supermarket trolleys preventable? *BMJ*. 1990;301:1370
6. Harrell WA. Epidemiology of shopping cart-related injuries to children [letter]. *Arch Pediatr Adolesc Med*. 1997;151:105–106
7. US Consumer Product Safety Commission. National Electronic Injury Surveillance System data for 2005 [from database]. Washington, DC: US Consumer Product Safety Commission; 2003
8. US Consumer Product Safety Commission. *National Injury Information Clearing House Reported Incident File for Grocery/ Shopping Carts (Code 1679) January 1991–June 1993*. Washington, DC: US Consumer Product Safety Commission; 1993
9. Centers for Disease Control and Prevention. Deaths associated with infant carriers: United States, 1986–1991. *MMWR Morb Mortal Wkly Rep*. 1992;41:271–272
10. Smith GA; American Academy of Pediatrics, Committee on Injury, Violence, and Poison Prevention. Shopping cart-related injuries to children. *Pediatrics*. 2006;118(2). Available at: [www.pediatrics.org/cgi/content/full/118/2/e540](http://www.pediatrics.org/cgi/content/full/118/2/e540)
11. American Academy of Pediatrics. Shopping cart safety. *Pediatrics*. 2006;118(2). Available at: [www.pediatrics.org/cgi/content/full/118/2/e545](http://www.pediatrics.org/cgi/content/full/118/2/e545)
12. American Society for Testing and Materials International. *Standard Consumer Safety Performance Specification for Shopping Carts F2372-04*. West Conshohocken, PA: ASTM International; 2004

## Shopping Cart–Related Injuries to Children

*Pediatrics* 2006;118;825

DOI: 10.1542/peds.2006-1215

### Updated Information & Services

including high resolution figures, can be found at:  
<http://pediatrics.aappublications.org/content/118/2/825>

### References

This article cites 7 articles, 3 of which you can access for free at:  
<http://pediatrics.aappublications.org/content/118/2/825#BIBL>

### Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):

#### Current Policy

[http://www.aappublications.org/cgi/collection/current\\_policy](http://www.aappublications.org/cgi/collection/current_policy)

#### Council on Injury, Violence, and Poison Prevention

[http://www.aappublications.org/cgi/collection/committee\\_on\\_injury\\_violence\\_and\\_poison\\_prevention](http://www.aappublications.org/cgi/collection/committee_on_injury_violence_and_poison_prevention)

#### Injury, Violence & Poison Prevention

[http://www.aappublications.org/cgi/collection/injury\\_violence\\_-\\_poison\\_prevention\\_sub](http://www.aappublications.org/cgi/collection/injury_violence_-_poison_prevention_sub)

### Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:

<http://www.aappublications.org/site/misc/Permissions.xhtml>

### Reprints

Information about ordering reprints can be found online:

<http://www.aappublications.org/site/misc/reprints.xhtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



# PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

## Shopping Cart–Related Injuries to Children

*Pediatrics* 2006;118;825

DOI: 10.1542/peds.2006-1215

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/118/2/825>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2006 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

