

AMERICAN ACADEMY OF PEDIATRICS

Committee on Injury and Poison Prevention

Skateboard and Scooter Injuries

ABSTRACT. Skateboard-related injuries account for an estimated 50 000 emergency department visits and 1500 hospitalizations among children and adolescents in the United States each year. Nonpowered scooter-related injuries accounted for an estimated 9400 emergency department visits between January and August 2000, and 90% of these patients were children younger than 15 years. Many such injuries can be avoided if children and youth do not ride in traffic, if proper protective gear is worn, and if, in the absence of close adult supervision, skateboards and scooters are not used by children younger than 10 and 8 years, respectively.

ABBREVIATION. CPSC, US Consumer Product Safety Commission.

OVERVIEW

In the past decade, there has been a resurgence in recreational skateboarding, and with it, there has been an increased number of injuries. In 1996, an estimated 5.8 million children and adolescents younger than 18 years in the United States had participated in skateboarding, and an estimated 750 000 had done so at least weekly.¹ During the past 25 years, the annual incidence of skateboard-related injuries peaked at 150 000 in 1977 and subsequently decreased to 16 000 in 1983. This decrease was likely related to decreased skateboard activity. More recently, with increasing popularity of the sport, the number of injured individuals younger than 20 years has increased from an estimated 24 000 in 1994 to approximately 51 000 in 1999.² In 1997, 1500 children required hospitalization for an injury sustained while skateboarding, and in most cases, the injury was to the head.

According to the US Consumer Product Safety Commission (CPSC), approximately 90% of all children and adolescents treated for skateboard-related injuries in 1999 were males.² The ankle, wrist, and face were the 3 most common areas injured, accounting for 38% of all injuries treated. Only 5% were severe (defined as concussions or internal injuries), whereas moderate injuries (long bone fractures or dislocations) accounted for 31%. Deaths were rare. Of those children injured seriously enough to require hospitalization at a children's hospital or pediatric trauma center, 25% were hit by a motor vehicle.³

Nonpowered lightweight scooters have become

very popular in just a short time. These are made of lightweight aluminum with small, low-friction wheels similar to those on in-line skates. They weigh less than 10 lb and can be folded to enhance portability. Preliminary data from the CPSC indicate that an estimated 9400 people (94% younger than 15 years) were injured while using nonpowered scooters between January and August 2000. Injury frequency increased considerably during the summer months. Children younger than 8 years accounted for 31% of those injured. Approximately one third of all injuries were fractures or dislocations. Head and face injuries accounted for 29% of all injuries, whereas wrist, elbow, lower arm, and knee injuries together accounted for 34%.

The CPSC recommends that children younger than 8 years not use scooters without close supervision.⁴ The CPSC further recommends that all riders use a helmet that meets their standards as well as knee and elbow pads. Children should not ride scooters on streets, at night, or on any surfaces that have water, sand, gravel, or dirt.⁵

Young children may be at high risk of injury from skateboards and scooters because their judgment of their own skills and strength is often poor, as is their ability to judge foot or vehicular traffic. Their center of gravity is higher than that of older children and adults, their neuromuscular system is not well developed, and they are not sufficiently able to protect themselves from injury. For these developmental reasons, children younger than 5 years should not ride skateboards, and those between 6 and 10 years of age should be closely supervised while skateboarding. Children younger than 8 years are at greater risk of scooter injuries than are older children and should not use them.

At the time this policy statement was developed, the increase in use of skateboards and scooters was too new for the effectiveness of these recommendations to be assessed. These preliminary recommendations were based on studies concerning the effectiveness of protective gear for in-line skating and bicycling. More time will need to pass to determine whether the popularity of skateboards and scooters will increase or wane and to assess the effectiveness of recommendations.

The American Academy of Pediatrics recommends the following:

1. Children younger than 10 years⁶ should not use skateboards without close supervision by an adult or responsible adolescent. Children younger than 5 years should not use skateboards⁷; instead, parents and pediatricians should encourage them to

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

PEDIATRICS (ISSN 0031 4005). Copyright © 2002 by the American Academy of Pediatrics.

- undertake activities that are more developmentally appropriate.
2. Skateboards must never be ridden in or near traffic, regardless of traffic volume.
 3. "Skitching a ride," or holding on to the side or rear of a moving vehicle while riding a skateboard, should never be done. It is particularly dangerous because the rider cannot accommodate a sudden stop or swerve of the vehicle.
 4. Pediatricians should advise parents, teachers, and others to strongly recommend that all skateboarders wear a helmet and other protective gear (including wrist guards, elbow pads, and knee pads) to prevent or reduce the severity of injuries resulting from falls.⁸ Use of protective clothing, such as gloves, is not sufficient.⁹ The helmet should be a bicycle helmet that complies (and is so labeled) with the CPSC standard¹⁰ or a multisport helmet that complies with the N-94 standard established by the Snell Memorial Foundation.¹¹ The N-94 standard requires that helmets pass multiple impact tests to the back during laboratory testing.
 5. Communities should continue to develop skateboarding parks and encourage youth to practice there. These parks are preferred to home-constructed ramps and jumps, because they are more likely to be monitored for safety and separate the skateboarder from pedestrian and motor vehicle traffic. Existing guidelines for such parks should be standardized.¹²
 6. Until additional information is available, pediatricians should counsel parents on the use of non-powered scooters according to the following CPSC recommendations⁴:
 - Children younger than 8 years should not ride scooters without close adult supervision.
 - Children should not ride scooters in streets, in traffic, or at night.
 - Children should wear helmets, knee pads, and elbow pads while using scooters.
 7. The Academy strongly emphasizes the need to monitor the amount and nature of nonpowered scooter use and resultant injuries.

COMMITTEE ON INJURY AND POISON PREVENTION,
2001–2002

Marilyn J. Bull, MD, Chairperson
Phyllis Agran, MD, MPH
Victor F. Garcia, MD
H. Garry Gardner, MD
Danielle Laraque, MD
Susan H. Pollack, MD

Gary A. Smith, MD, DrPH
Milton Tenenbein, MD
Joseph L. Wright, MD, MPH

LIAISONS

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

STAFF

Heather Newland

REFERENCES

1. American Sports Data Inc. *American Sports Analysis Summary Report*, 1996. Hartsdale, NY: American Sports Data Inc; 1996
2. US Consumer Product Safety Commission. National Electronic Injury Surveillance System [database]. Washington, DC: US Consumer Product Safety Commission; 1999
3. Osberg JS, Schneps SE, DiScala C, Li G. Skateboarding: more dangerous than roller skating or in-line skating. *Arch Pediatr Adolesc Med*. 1998;152:985–991
4. US Consumer Product Safety Commission. More scooter information. Available at: <http://www.cpsc.gov/PR/prscoot.html>. Accessed November 13, 2001
5. US Consumer Product Safety Commission. CPSC reports as scooter sales skyrocket, injuries soar, recommends riders wear safety gear [press release]. Washington, DC: US Consumer Product Safety Commission; September 5, 2000. Available at: <http://www.cpsc.gov/cpsc/pub/prerel/prhtml00/00178.html>. Accessed November 13, 2001
6. Cass DT, Ross F. Skateboard injuries. *Med J Aust*. 1990;153:143–144
7. Retsky J, Jaffe D, Christoffel K. Skateboarding injuries in children. A second wave. *Am J Dis Child*. 1991;145:188–192
8. Schieber RA, Branche-Dorsey CM, Ryan GW. Comparison of in-line skating injuries with rollerskating and skateboarding injuries. *JAMA*. 1994;271:1856–1858
9. Pendergrast RA Jr. Skateboarding injuries in children and adolescents. *J Adolesc Health Care*. 1990;11:480–412
10. Safety standards for bicycle helmets: final rule. 63 *Federal Register* 11711–11747 (codified at 16 CFR §1203) (1998)
11. Snell Memorial Foundation. *1994 Standard for Protective Headgear for Use in Non-Motorized Sports*. North Highlands, CA: Snell Memorial Foundation; 1994. Available at: <http://www.smf.org/standards/n94std.html>. Accessed November 13, 2001.
12. International In-line Skating Association. *Skate Park Start-up Guide*. Wilmington, NC: International In-line Skating Association; 2000. Available at: <http://www.iisa.org/skatepark/skateparkintro.htm>. Accessed November 13, 2001

Skateboard and Scooter Injuries
Committee on Injury and Poison Prevention
Pediatrics 2002;109;542
DOI: 10.1542/peds.109.3.542

Updated Information & Services	including high resolution figures, can be found at: /content/109/3/542.full.html
Citations	This article has been cited by 8 HighWire-hosted articles: /content/109/3/542.full.html#related-urls
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): Council on Injury, Violence, and Poison Prevention /cgi/collection/committee_on_injury_violence_and_poison_prevention Injury, Violence & Poison Prevention /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: /site/misc/Permissions.xhtml
Reprints	Information about ordering reprints can be found online: /site/misc/reprints.xhtml

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 © 2002 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Skateboard and Scooter Injuries
Committee on Injury and Poison Prevention
Pediatrics 2002;109;542
DOI: 10.1542/peds.109.3.542

The online version of this article, along with updated information and services, is located on the World Wide Web at:
</content/109/3/542.full.html>

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 © 2002 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

