Published in final edited form as:

Urology. 2013 November ; 82(5): . doi:10.1016/j.urology.2013.05.042.

Pediatric Genital Injury: An Analysis of the National Electronic Injury Surveillance System

Jessica T. Casey, Marc A. Bjurlin, and Earl Y. Cheng

Department of Urology, Northwestern University, Chicago, IL; Department of Urology, NYU Langone Medical Center, NYU School of Medicine, New York, NY; and Division of Urology, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL

Abstract

Objective—To describe the characteristics of pediatric genital injuries presenting to United States emergency departments (EDs).

Methods—A retrospective cohort study utilizing the U.S. Consumer Product Safety Commission (CPSC) National Electronic Injury Surveillance System (NEISS) from 1991-2010 to evaluate pediatric genital injuries was performed.

Results—Pediatric genital injuries represented 0.6% of all pediatric injuries with the incidence of injuries rising through the period studied, 1991-2010. The mean age at injury was 7.1 years old and was distributed 56.6% girls and 43.4% boys. A total of 43.3% had lacerations and 42.2% had contusions/abrasions. The majority of injuries occurred at home (65.9%), and the majority of patients (94.7%) were treated and released from the hospital. The most common consumer products associated with pediatric genital trauma were: bicycles (14.7% of all pediatric genital injuries), bathtubs (5.8%), daywear (5.6%), monkey bars (5.4%), and toilets (4.0%).

Conclusion—Although pediatric genital injuries represent a small proportion of overall injuries presenting to the ED, genital injuries continue to rise despite public health measures targeted to decrease childhood injury. Our results can be used to guide further prevention strategies for pediatric genital injury.

Pediatric external genital trauma because of sports, playground equipment, toys, or furniture does not seem to be uncommon in everyday life. However, the rate of accidental, nonsexual pediatric genital injury is unknown, as most related literature is focused on the association of sexual abuse with genital trauma. Studies focusing on nonsexual pediatric genital trauma consist of case reports or small series and focus on either female or male patients exclusively.¹⁻⁶ From these studies, it seems that genital injury occurs in 0.4%-8% of reported childhood trauma, and the majority of accidental pediatric genital injury is minor, not requiring surgical or intensive medical treatment.^{7,8} Our purpose for this study was to provide a description of pediatric genital injury by using a nationally representative sample of patients presenting to U.S. emergency departments (EDs).

© 2013 Elsevier Inc. All Rights Reserved

Reprint requests: Jessica T. Casey, M.S., M.D., Department of Urology, Northwestern University, 303 E Chicago Avenue, Tarry 16-713, Chicago, IL 60611. jtcasey@fsm.northwestern.edu.

Financial Disclosure: The authors declare that they have no relevant financial interests.

Appendix Supplementary Data: Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.urology.2013.05.042>.

Material and Methods

The U.S. Consumer Product Safety Commission (CPSC) National Electronic Injury Surveillance System (NEISS) records patient information for every ED visit (from selected U.S. EDs) involving an injury associated with consumer products or sports. The NEISS is a nationally representative, stratified probability sample of 100-130 U.S. hospital EDs (depending on collection year). At each NEISS hospital, trained coders review the ED records daily for injuries associated with consumer products or sports to be entered into the NEISS. Each case is assigned a primary body part injured, diagnosis, and associated consumer products. Genital injury is defined in NEISS as “pubic region” including vagina, penis, scrotum, and perineum, but not groin.

Pediatric genital injuries reported to the CPSC NEISS from 1991-2010 were analyzed to identify overall incidence, demographics, injury diagnosis, injury location, associated products, and ED disposition. For demographic analysis, we stratified ages into 6 categories: younger than 4, 5-8, 9-12, and 13-18 years old. Injury diagnoses were classified as contusion/abrasion, dermatitis, foreign body, hematoma, laceration, strain/sprain, and other (included avulsion, burns, crushing, fracture, hemorrhage, internal organ injury, and puncture). To determine the percentage of injuries associated with each diagnosis, diagnoses coded as “other,” “not stated or unknown,” or “other or not stated” were excluded. Injury locations were classified as home (which included home, apartment/condominium, mobile home, and farm), industrial place, other public property, school, sports or recreation place, street or highway, and unknown. Disposition was classified as admitted (which included admitted, observation, and treated/transferred) and released (which included treated/released and examined/released). No information was available regarding the severity of injury and subsequent medical or surgical interventions. Product codes were both individually analyzed (analysis from 1991-2010) and analyzed using 4 general categories (analysis from 1994-2010 given the shift in product coding in 1994): (1) sports activity, apparel, and equipment, (2) amusement facilities, (3) riding toys, and (4) furniture and other household structures.

Statistical weights provided by the CPSC were applied to calculate national estimates. Population-based injury estimates were calculated using 2000-2010 population estimates from the U.S. Census Bureau as the denominator. Linear regression was used to analyze trends in pediatric genital injuries over time.

Results

Overall Pediatric Genital Injuries

From 1991-2010, the NEISS recorded 19,885 ED visits for genital injuries related to consumer products or sports in patients 18 years old, representing an estimate of 521,893 nationwide visits (95% confidence interval [CI] 450,226-669,739). Using U.S. Census Bureau data, this represents 0.35 genital injuries/1000 children/year. Pediatric genital injuries represented 0.6% of all pediatric injuries. In comparison, from 1991-2010, the NEISS recorded 3,268,610 ED visits for any injury related to consumer products or sports in patients 18 years old, representing an estimate of 109,559,166 nationwide visits (95% CI 97,847,412-126,418,946). Using U.S. Census Bureau data, this represents 75.6 injuries/1000 children/year.

The absolute number of pediatric genital injuries and the percentage of injuries affecting the genitals have risen between 1991 and 2010 (Fig. 1).

For overall pediatric genital injuries, gender distribution was 56.6% girls (95% CI 55.9%-56.2%) and 43.4% boys (95% CI 42.7%-44.1%). The majority of pediatric genital injuries occurred in those 8 years old (age 0-4 31.9%, 95% CI 31.2%-32.5%, age 5-8 37.1%, 95% CI 36.5%-37.8%, age 9-12 17.6%, 95% CI 17.1%-18.1%, and age 13-18 13.4%, 95% CI 13.0%-13.9%). The overall mean age at pediatric genital injury was 7.1 years old (95% CI 7.03-7.16). The most common described diagnosis was laceration (43.3%, 95% CI 42.6%-44.0%), followed by contusion/abrasion (42.2%, 95% CI 41.5%-42.9%). Other diagnoses were rare: foreign body (2.9%, 95% CI 2.7%-3.1%), hematoma (2.8%, 95% CI 2.6%-3.1%), dermatitis (2.5%, 95% CI 2.2%-2.7%), and strain/sprain (2.1%, 95% CI 1.9%-2.3%). A total of 18.9% had a diagnosis of "unknown" or "other." Of those with a known location of injury, the majority occurred at home (65.9%, 95% CI 65.3%-66.6%), at a sports or recreation place (13.8%, 95% CI 13.3%-14.3%), at school (11.6%, 95% CI 11.1%-12.0%), or on a street or highway (4.8%, 95% CI 4.5%-5.1%). The majority (94.7%, 95% CI 94.4%-95.0%) were treated and released from the hospital without admission. From 1997-2010, the most common consumer products associated with pediatric genital trauma were: bicycles (14.7% of all pediatric genital injuries during this time period, 95% CI 14.2%-15.3%), bathtubs (5.8%, 95% CI 5.4%-6.2%), daywear (5.6%, 95% CI 5.2%-5.9%), monkey bars (5.4%, 95% CI 5.0%-5.7%), and toilets (4.0%, 95% CI 3.7%-4.3%).

We then analyzed the distribution of pediatric genital injuries between 1994 and 2010 in 4 categories (sports, amusement, riding toys, and furniture). From 1994-2010, the NEISS recorded 2,855,469 ED visits for any injury and 17,625 ED visits for genital injury related to a consumer product or sports activity in patients 18 years old.

Sports-related Pediatric Genital Injuries

Sports activities, apparel, or equipment led to 799,749 ED visits for any pediatric injury (representing 28.0% of all recorded ED visits) and 3282 ED visits for pediatric genital injury (representing 0.4% of all sports-related injuries and 18.6% of all genital injuries). Table 1 describes the sports related to the highest number of any pediatric injury, highest number of pediatric genital injuries, and greatest percentage of injuries being genital in nature. From the provided online descriptions, the mechanism for diving and swimming genital injuries was mostly slip and fall, and the mechanism for billiards/pool genital injuries was mostly trauma because of the pool cue. For ball and stick-related sports, the majority of genital injuries were to boys (93.9%, 95% CI 92.6%-95.2%) and to older children aged 13-18 years (53.0%, 95% CI 50.3%-55.8%) and 9-12 years (33.3%, 95% CI 30.6%-35.9%). The majority of known diagnoses for ball and stick-related sports were contusion/abrasion (67.1%, 95% CI 63.9%-70.4%), followed by strain/sprain (11.7%, 95% CI 9.4%-13.9%). For water-related sports, the majority of genital injuries were to girls (72.2%, 95% CI 69.3%-75.1%) and to younger children aged 5-8 years (49.0%, 95% CI 45.8%-52.3%) or 0-4 years (22.9%, 95% CI 20.2%-25.6%). The majority of known diagnoses for water-related sports were laceration (62.7%, 95% CI 59.1%-66.2%), followed by contusion/abrasion (26.0%, 95% CI 22.8%-29.2%). The Appendix, online only, describes genital injuries related to each sport listed in the NEISS in more detail.

Amusement Facility-related Pediatric Genital Injuries

Amusement facilities (such as playgrounds, amusement parks, and water parks) led to 159,522 ED visits for any pediatric injury (representing 5.6% of all recorded ED visits) and 1805 ED visits for pediatric genital injuries (representing 1.1% of all amusement facility-related injuries and 10.2% of all genital injuries). Table 2 describes the amusement facilities related to the highest number of any pediatric injury, highest number of pediatric genital injuries, and greatest percentage of injuries being genital in nature. The majority of pediatric

genital injuries related to amusement facilities were in girls (79.9%, 95% CI 78.0%-81.7%) and 5-8 year olds (60.4%, 95% CI 58.2%-62.7%). These injuries most commonly resulted in laceration (47.1%, 95% CI 44.6%-49.6%) or contusion/abrasion (46.6%, 95% CI 44.1%-49.1%), and occurred at either school (37.3%, 95% CI 34.5%-40.0%), a sports or recreation place (30.6%, 95% CI 28.0%-33.3%), or home (27.2%, 95% CI 24.7%-29.8%).

Riding Toy-related Pediatric Genital Injuries

Riding toys led to 313,038 ED visits for any pediatric injury (representing 11.0% of all recorded ED visits) and 3315 ED visits for pediatric genital injuries (representing 1.1% of all riding toy-related injuries and 18.8% of all genital injuries). Table 3 describes that riding toys were related to the highest number of any pediatric injury, highest number of pediatric genital injuries, and greatest percentage of injuries being genital in nature. Riding toy-related genital injury occurred equally in both sexes (50.4% girls, 49.7% boys) and occurs most often in 5-8 year olds (46.5%, 95% CI 44.8%-48.2%). These injuries most commonly resulted in contusion/abrasion (47.4%, 95% CI 45.6%-49.3%) or laceration (44.2%, 95% CI 42.4%-46.1%), and occurred at either home (55.7%, 95% CI 53.2%-58.2%) or on a street or highway (29.0%, 95% CI 26.7%-31.3%).

Furniture-related Pediatric Genital Injuries

Furniture and other household structures led to 553,665 ED visits for any pediatric injury (representing 19.4% of all recorded ED visits) and 5462 ED visits for pediatric genital injuries (representing 1.0% of all furniture and other household structure-related injury and 31.0% of all genital injuries). Table 4 describes furniture and other household structure related to the highest number of any pediatric injury, highest number of pediatric genital injuries, and greatest percentage of injuries being genital in nature. Furniture and other household structure-related genital injury occurred more often in girls (65.1%, 95% CI 63.8%-66.4%) and in 0-4 (42.0%, 95% CI 40.6%-43.4%) and 5-8 year olds (40.0%, 95% CI 38.7%-41.5%). These injuries most commonly resulted in laceration (55.6%, 95% CI 54.1%-57.2%) or contusion/abrasion (37.0%, 95% CI 35.5%-38.5%), and occurred most often at home (91.3%, 95% CI 90.4%-92.3%).

Comment

Prior literature has demonstrated that pediatric genital trauma occurs in approximately 0.4%-8% of reported cases of childhood trauma.^{7,8} In our study, the first report on boy and girl pediatric genital trauma cases presenting to U.S. EDs using a nationwide database, we found a rate of 0.6%. However, this is likely an underrepresented population, as our study only reported on injuries related to consumer products and sports activities presenting to the ED as reported in the NEISS database. Additionally we demonstrate a rising rate of pediatric genital injuries, which may reflect an increase in reporting or a true increase. Despite this limitation, our study provides some insight into the common etiologies of pediatric genital injury.

Prior studies looking at accidental female genital trauma in young girls have focused on patterns of injury (in order to differentiate accidental injury from non-accidental sexual abuse) and the use of sedation or general anesthesia for complete evaluation.^{3,5} Straddle-type injuries are reported as the most common (70.5%-81.9% of cases reported) but are least likely to require gynecological evaluation or operative intervention. Penetrating injury and injury above the labia (eg, hymenal injuries) were more likely to require operative intervention. Overall, the majority of accidental female genital trauma did not require general anesthesia or operative intervention (80.9%-87.9%).^{3,5} These 2 studies, although informative, were single institution studies. A recent publication using a national inpatient

and ED database verified that pediatric female genital trauma rarely requires operative intervention by demonstrating that 90% of patients were discharged from the ED, 4.2% underwent invasive diagnostic evaluation, and 8.9% required surgical repair.⁴

In comparison to the literature on pediatric female genital trauma, in which several reviews exist to guide the clinician,⁹ there is a paucity of literature on general pediatric male genital trauma with the majority focusing on specific injuries, such as toilet seat injury,¹ penile zipper entrapment,¹⁰ and animal bites.¹¹ However, a recent retrospective review of 74 boys with nonsexual genital trauma seen at a single institution demonstrated that toddlers were most commonly affected by falls or injuries related to toilet seats; school-aged children by kicks, falls, or sports-related injuries; and adolescents by motorcycle accident-related injuries.⁶ The majority of patients had scrotal or penile lacerations or scrotal contusion, and, overall, 42% of scrotal and 69% of penile injuries underwent surgical intervention.⁶ Alternatively, in another series, only 27% of boys with external genitalia injury required primary suture repair or surgical exploration.²

In the NEISS database, surgical intervention is unknown; however, we demonstrate that in this population of children seen in U.S. EDs for consumer product or sports-related genital trauma, 94.7% were not admitted, reflecting the generally low-acuity nature of these injuries.

Using the NEISS database, we demonstrate that bicycles caused a high number of injuries, likely because of compression of the genitals onto the frame of the bicycle. As a singular product, bicycles led to the greatest proportion of pediatric genital injuries (14.7% of all genital injuries recorded from 1997-2010), and 1.6% of all bicycle-related pediatric injuries were primarily genital in nature. In a recent analysis of the National Trauma Data Bank, only 10% of bicycle injuries involved the penis and scrotum; however, the population was significantly older (mean 29 years old) and consisted of inpatients with a high rate of associated vertebral and pelvic fractures (reflecting the more serious nature of injuries).¹² Others have reported an even higher rate (41%) of penile injury during bicycle accidents.¹³ Because the NEISS does not record genital injuries associated with more severe injuries to other locations, we report a relatively low rate (1.6%) of bicycle injuries affecting the genitals.

The relatively high rate of genital injuries associated with bicycles compared to other products should provoke discussion on public health measures to reduce these injuries. In initial bicycle manufacturing, the crossbar design maximized stability for the original materials.¹⁴ However, the crossbar was lowered to accommodate women's fashion and perceived less-intense riding. However, the crossbar has obvious limitations (eg, high rate of straddle injuries, as seen in this study), and given our modern materials, its role in stability is less critical. Therefore, in order to decrease pediatric genital injury, we proposed lowering the crossbar for all children's and, possibly, recreational bicycles.

Although, in our analysis, seesaws led to less general pediatric injury than playground equipment such as monkey bars,^{15,16} there was a relatively high proportion (3%) of injuries being primarily genital in nature. This relationship has not been previously shown in other playground injury analyses^{17,18}; therefore, public health measures aimed at preventing playground-associated injuries should not discount genital injury rates.

Toilets led to the fifth greatest proportion of pediatric genital injuries (4.0% of all genital injuries recorded from 1997-2010), and 14.2% of all toilet-related pediatric injuries were primarily genital in nature. Similarly, 14.9% of all child potty training seat-related pediatric injuries were primarily genital in nature. Therefore, in this analysis, toilets and training seats can be argued to pose the most threat to pediatric genitals. Toilet-related injuries to the penis

can be caused by a falling toilet seat while toilet-training children attempt to void,⁶ and, in our study, 93% of toilet-related genital injuries involved boys. Recent studies have suggested preventative measures to avoid these injuries, such as toilet seats that slowly lower, banning heavier toilet seats, leaving the default position of the toilet seat “up” for households with male toddlers, and teaching boys to hold up the toilet seat up while voiding.¹⁹

Finally, we demonstrated a high prevalence of pediatric genital trauma during slip and fall injuries during water activities. For example, bathtubs led to the second highest rate of pediatric genital injuries (5.7% of all genital injuries recorded from 1997-2010), and swimming and swimming pools ranked as the most common sports-related activity leading to pediatric genital injury, leading to 4.2% of all pediatric genital injuries. Prior studies have described diving²⁰ and bathtub injuries^{21,22} but have not addressed related genital injury. Public health interventions should be promoted to reduce these injuries, such as incorporating slip-resistant pool decks and soft pool edges at public swimming pools and promoting a higher standard coefficient of friction for bathtubs to prevent slip and fall injuries.²¹

The limitations of this study deserve mention. First, this study underestimates the actual number of pediatric genital injuries for a few reasons. The NEISS only reports injuries presenting to the ED; many pediatric genital injuries may be treated at home, urgent care centers, or pediatrician offices. Additionally, the NEISS reports only the most severely injured body part; in many instances, genital injury may occur with more severe associated injuries (eg, pelvic fracture, head trauma, and vertebral fractures). Finally, the data reported in the NEISS only includes injuries associated with consumer products or sports activities; for example, motor vehicle accidents are not included. Additionally, the NEISS lacks detail on the use of conscious sedation or general anesthesia for evaluation, need for surgical repair, and long-term outcomes.

Conclusions

Although pediatric genital injuries represent a small proportion of overall injuries presenting to the ED, genital injuries continue to rise despite public health measures targeted to decrease childhood injury. In our analysis of pediatric genital injuries related to a consumer product or sports activity, we found a high rate of genital injury associated with bicycles, water activities (eg, swimming, bathtubs), toilets, monkey bars, and seesaws. This information can be used to guide further prevention strategies for pediatric genital injury.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Funding Support: Marc A. Bjurlin was supported in part by grant UL1 TR000038 from the National Center for the Advancement of Translational Science (NCATS), National Institutes of Health.

References

1. Gazi MA, Ankem MK, Pantuck AJ, et al. Management of penile toilet seat injury — report of two cases. *Can J Urol*. 2001; 8:1293–1294. [PubMed: 11423018]
2. Galisteo Moya R, Noqueras Ocaña M, Tinaut Ranera FJ, et al. External genital injuries during childhood. *Arch Esp Urol*. 2002; 55:813–818. Article in Spanish. [PubMed: 12380310]

3. Iqbal CW, Jrebi NY, Zielinski MD, et al. Patterns of accidental trauma in young girls and indications for operative management. *J Pediatr Surg.* 2010; 45:930–933. [PubMed: 20438929]
4. Shnorhavorian M, Hidalgo-Tamola J, Koyle MA, et al. Unintentional and sexual-abuse related pediatric female genital trauma: a multiinstitutional study of free-standing pediatric hospitals in the United States. *Urology.* 2012; 80:417–422. [PubMed: 22704182]
5. Spitzer RF, Kives S, Caccia N, et al. Retrospective review of unintentional female genital trauma at a pediatric referral center. *Pediatr Emerg Care.* 2008; 24:831–835. [PubMed: 19050662]
6. Widni EE, Höllwarth ME, Saxena AK. Analysis of nonsexual injuries of the male genitals in children and adolescents. *Acta Paediatr.* 2011; 100:590–593. [PubMed: 21087313]
7. Scheidler MG, Schultz BL, Schall L, Ford HR. Mechanisms of blunt perineal injury in female pediatric patients. *J Pediatr Surg.* 2000; 35:1317–1319. [PubMed: 10999687]
8. Tarman GJ, Kaplan GW, Lerman SL, et al. Lower genitourinary injury and pelvic fractures in pediatric patients. *Urology.* 2002; 59:123–126. discussion: 126. [PubMed: 11796295]
9. Merritt DF. Genital trauma in prepubertal girls and adolescents. *Curr Opin Obstet Gynecol.* 2011; 23:307–314. [PubMed: 21897236]
10. Strait RT. A novel method for removal of penile zipper entrapment. *Pediatr Emerg Care.* 1999; 15:412–413. [PubMed: 10608329]
11. Gomes CM, Ribeiro-Filho L, Giron AM, et al. Genital trauma due to animal bites. *J Urol.* 2001; 165:80–83. [PubMed: 11125369]
12. Bjurlin MA, Zhao LC, Goble SM, Hollowell CM. Bicycle-related genitourinary injuries. *Urology.* 2011; 78:1187–1190. [PubMed: 21945282]
13. Paparel P, N'Diaye A, Laumon B, et al. The epidemiology of trauma of the genitourinary system after traffic accidents: analysis of a register of over 43,000 victims. *BJU Int.* 2006; 97:338–341. [PubMed: 16430642]
14. Herligy, DV. *Bicycle: The History.* New Haven: Yale University Press; 2006.
15. Loder RT. The demographics of playground equipment injuries in children. *J Pediatr Surg.* 2008; 43:691–699. [PubMed: 18405717]
16. Waltzman ML, Shannon M, Bowen AP, Bailey MC. Monkeybar injuries: complications of play. *Pediatrics.* 1999; 103:e58. [PubMed: 10224202]
17. Illingworth C, Brennan P, Jay A, et al. 200 injuries caused by playground equipment. *Br Med J.* 1975; 4:332–334. [PubMed: 1192056]
18. Phelan KJ, Khoury J, Kalkwarf HJ, Lanphear BP. Trends and patterns of playground injuries in United States children and adolescents. *Ambul Pediatr.* 2001; 1:227–233. [PubMed: 11888406]
19. Philip J, Bicha S, Marmood E, et al. Public interest warning: should be ban wooden/ornamental toilet seats for male infants? *BJU Int.* 2008; 102:1749. [PubMed: 19035862]
20. Day C, Stolz U, Mehan TJ, et al. Diving-related injuries in children <20 years old treated in emergency departments in the United States: 1990–2006. *Pediatrics.* 2008; 122:e388–e394. [PubMed: 18676525]
21. Spencer SP, Shields BJ, Smith GA. Childhood bathtub-related injuries: slip and fall prevalence and prevention. *Clin Pediatr (Phila).* 2005; 44:311–318. [PubMed: 15864363]
22. Mao SJ, McKenzie LB, Xiang H, Smith GA. Injuries associated with bathtubs and showers among children in the United States. *Pediatrics.* 2009; 124:541–547. [PubMed: 19596735]

Figure 1.

(A) Absolute number of recorded pediatric genital injuries in the National Electronic Injury Surveillance System (NEISS) from 1991-2010. (B) Percentage of pediatric injuries that affected the genitals in the NEISS from 1991-2010.

Table 1
Five highest ranking sports related to pediatric injuries

Total ED Visits Because of Product (% of all ED Visits)	Genital Injury ED Visits Because of Product (% of all Genital Injuries)	% of Genital Injury ED Visits/total ED Visits Because of Product
Basketball 177,611 (6.2%)	Swimming and swimming pools 741 (4.2%)	Diving 4.0%
Football 163,670 (5.7%)	Football 339 (1.9%)	Billiards/pool 1.9%
Soccer 62,842 (2.2%)	Basketball 318 (1.8%)	Swimming and swimming pools 1.8%
Baseball 58,498 (2.0%)	Baseball 190 (1.1%)	Water slides 1.4%
Swimming and swimming pools 41,627 (1.5%)	Soccer 183 (1.0%)	Toboggans 1.0%

ED, emergency department.

Table 2
Five highest ranking amusement facilities related to pediatric injuries

Total ED Visits Because of Product (% of all ED Visits)	Genital Injury ED Visits Because of Product (% of all Genital Injuries)	% of Genital Injury ED Visits/total ED Visits Because of Product
Monkey bars 44,004 (1.5%)	Monkey bars 939 (5.3%)	Seesaws or teeterboards 3.0%
Trampolines 40,405 (1.4%)	Swings or swing sets 224 (1.4%)	Monkey bars 2.1%
Swings or swing sets 33,112 (1.2%)	Trampolines 222 (1.3%)	Other playground equipment 1.2%
Slides or sliding boards 25,203 (0.9%)	Slides or sliding boards 201 (1.1%)	Slides or sliding boards 0.8%
Other playground equipment 5762 (0.2%)	Seesaws or teeterboards 76 (0.4%)	Water slides, public 0.8%

Abbreviation as in Table 1.

Table 3
Five highest ranking riding toys related to pediatric injuries

Total ED Visits Because of Product (% of all ED Visits)	Genital Injury ED Visits Because of Product (% of all Genital Injuries)	% of Genital Injury ED Visits/total ED Visits Because of Product
Bicycles 175,360 (6.1%)	Bicycles 2,735 (15.5%)	Unicycles 4.2%
Skateboards 32,756 (1.1%)	Skateboards 132 (0.7%)	Non-wheeled riding toys 2.5%
In-line skating 19,723 (0.7%)	Scooters, unpowered 99 (0.6%)	Tricycles 1.6%
ATVs 18,202 (0.6%)	In-line skating 54 (0.3%)	Bicycles 1.6%
Scooters, unpowered 18,173 (0.6%)	ATVs 53 (0.3%)	Mountain bicycles 1.2%

ATV, all terrain vehicle; other abbreviation as in Table 1.

Table 4
Five highest ranking furniture related to pediatric injuries

Total ED Visits Because of Product (% of all ED Visits)	Genital Injury ED Visits Because of Product (% of all Genital Injuries)	% of Genital Injury ED Visits/total ED Visits Because of Product
Beds 140,454 (4.9%)	Bathtubs or showers 1001 (5.7%)	Potty chairs or training seats 14.9%
Tables 103,134 (3.6%)	Beds 906 (5.1%)	Toilets 14.2%
Chairs 74,450 (2.6%)	Chairs 825 (4.7%)	Bathtubs or showers 3.4%
Sofas 44,890 (1.6%)	Toilets 697 (4.0%)	Bedrails 3.3%
Desks 30,846 (1.1%)	Cabinets 370 (2.1%)	Hot tubs or home spas 3.1%

Abbreviation as in Table 1.