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Product Related Adult Genitourinary Injuries Treated at Emergency Departments in the United States from 2002 to 2010

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Abstract

Purpose—We describe the epidemiological features of adult genitourinary injuries related to consumer products and determined the patient cohorts, products and situations associated with increased genitourinary injury risk.

Materials and Methods—The National Electronic Injury Surveillance System, a data set validated to provide a probability sample of injury related emergency department presentations in the United States, was analyzed to characterize genitourinary injuries from 2002 to 2010. We analyzed 3,545 observations to derive national estimates.

Results—An estimated 142,144 adults (95% CI 115,324–168,964) presented to American emergency departments with genitourinary injuries from 2002 to 2010. Of the injuries 69% occurred in men. A large majority of injuries involved the external genitalia. The most common categories of products involved were sporting items in 30.2% of cases, clothing articles in 9.4% and furniture in 9.2%. The highest prevalence of injury was at ages 18 to 28 years (37.5%), which was most often related to sports equipment, such as bicycles. Older cohorts (age greater than 65 years) more commonly sustained injuries during falls and often in the bathroom during use of a shower or tub. Of all patients 88% were evaluated and treated in the emergency department without inpatient admission, although the admission rate increased with increasing patient age.

Conclusions—Acute genitourinary injury is often associated with common consumer items and with identifiable high risk cohorts, products and situations. Consumers, practitioners and safety champions can use our epidemiological data to prioritize and develop strategies aimed at the prevention, limitation and informed treatment of such injuries.

Keywords

urogenital system; injuries; consumer product safety; sports; epidemiology

The potential sequelae of GU trauma are remarkable, given its uniquely sensitive nature and possible reproductive consequences. However, the epidemiology of GU injuries in the United States remains largely unknown. Previous studies of GU trauma focused on specific organs,^{1–7} particular injurious products^{8,9} or isolated mechanisms of injury.^{10–13} Data have often been derived from large, institution specific trauma cohorts and national trauma databases. While these databases are valuable and informative, they select for patients who

sustain severe injury. Consequently, the current literature has likely underestimated the incidence and overestimated the morbidity of GU injury in the United States.^{1,4,7,8,10}

We describe the epidemiology of acute GU injury using a nationally representative sample of adults 18 years old or older who presented to American EDs after product related injury. We hypothesize this comprehensive study of ED presentations of GU injuries would allow us to identify the populations, products and situations most frequently associated with such injury. Identifying high risk cohorts, activities and products may provide a foundation to educate consumers and caregivers of such injury, improve product design and ultimately decrease the morbidity and incidence of GU injury.

MATERIALS AND METHODS

Data Source

The United States CPSC operates the NEISS, a stratified national probability sample of patients who present to EDs in the United States with physical injury related to the use of consumer products. This includes all products except those outside CPSC jurisdiction, such as automobiles, trains, boats, planes, food, illegal drugs and medical devices. Data are prospectively collected from approximately 100 representative American hospitals and validated to produce national estimates of patients who present to American EDs with injury. Patient age, race, gender, injury type, locale where injury occurred, body part affected, disposition and product(s) involved are abstracted by professional NEISS coders. A brief narrative description of each injury is also recorded, eg mechanism and associated conditions. Secondary and tertiary review, and quality control occur after the data are sent to the CPSC.¹⁴ The University of California-San Francisco institutional review board gave this study exempt status.

Variables

The NEISS database was searched to identify individuals 18 years old or older who sustained GU injury from 2002 to 2010. Available data were extracted and narratives were reviewed by three of us (HSB, GET and PBF) to create new variables, including the injury mechanism, injured GU organ and product category. Mechanism of injury was classified into 6 categories, including fall; lifting object; catch injury (eg zipper injury to penis); topical application; stepping, climbing or jumping over an object and other. Specific GU organs identified and included in analysis were the penis, scrotum, testicle and/or epididymis, urethra, external female genitalia, bladder, kidney, adrenal gland, ureter and unspecified. The product associated with injury was grouped into a product category, eg basketballs and baseballs were included in the category of sports related items. This was done to increase the specificity of NEISS generated product codes and improve the ability to identify trends of GU injuries associated with related types of consumer products.

Statistical Analysis

Analyses were performed using Stata® 12 with adjustments for sample weighting and stratified survey design.¹⁵ We analyzed 3,545 cases to derive national estimates. Data are reported as the national estimate and 95% CI unless specified as actual, unweighted case numbers. Linear regression was used to determine changes in the annual incidence.

RESULTS

Demographic Features

Table 1 lists the characteristics of adult GU injuries. A total of 142,144 adults (95% CI 115,324–168,964) presented to the ED from 2002 to 2010 with GU injury attributable to

consumer products. The annual incidence of injury was stable during the study interval. Men sustained the majority of injuries, representing approximately two-thirds of all ED presentations. When stratified by age, those 18 to 28 years old were most frequently injured, representing 37.5% of injuries. There was an inverse relationship between age and injury incidence with the lowest proportion of injuries in individuals older than 65 years (8.4%). Conversely, the proportion of patients who required inpatient admission increased with age with only 7.9% of those 18 to 28 years old admitted vs 32.6% of those older than 65 years (fig. 1). Injuries occurred more commonly (29%) during the summer months of June, July and August.

Injury

Association with consumer products—Table 2 lists the details of common consumer products and GU injury rates. The consumer products most commonly involved with GU injury were sporting and exercise equipment with bicycles the most frequently associated product. Most bicycle injuries occurred during a fall, often as straddle injuries from contact with the top tube or saddle of the bicycle. Sports vehicles were another common source of injury, followed by activities in which sporting balls serve as projectile objects.

Clothing was the next highest cause of GU injuries, dominated by penile zipper injury. Furniture related injuries were also relatively common (9%). They were mostly sustained during a fall from a piece of furniture or as a straddle-type injury when trying to jump or step over a chair.

Injuries sustained in the bathroom were common. When combined, bathroom fixtures and bathing products together accounted for 10.4% of GU injuries. Injuries due to falls or less commonly to burns in a shower or bathtub represented most of these cases. However, toilet injuries were also notable, representing 29% of bathroom GU injuries. Toilet injuries were mostly due to a toilet seat crushing the penis or scrotum. Bathing products mostly caused irritative injury due to soap, such as bubble baths.

Types and mechanisms—Figure 2 shows the most commonly injured GU organs. Most GU injuries involved the male external genitalia, which represented 53.3% of all GU injuries. Of the injuries 21% involved the female genitalia, such as the vagina, vulva or labia. In contrast, internal GU organ injuries represented only 8.4% of GU injuries with the kidney most commonly involved (91.7% of internal GU organ injuries). Kidney injuries were mostly sustained during the use of sporting equipment (59.3%). Particularly all terrain vehicle use, bicycling, horseback riding and skiing were associated with kidney injury with related equipment for each sport responsible for 13.1%, 8.6%, 6.9% and 6% of all such injuries, respectively. Also notable was the association between climbing equipment, such as ladders and stairs, with kidney injury. It was responsible for 14.4% of such injuries.

Overall, contusions (21.2%) and lacerations (16.8%) were the most common type of GU injury. The third most frequent mechanism of injury was cutaneous contact with liquids, chemicals and soaps, which caused irritation or burns (5.7%). Of these mechanisms heat burns had the highest rate of inpatient admission (16.1%), mostly due to hot liquid burns during bathing or spills of hot drinks such as coffee.

Patient Age, Gender and Disposition

When stratified by age, we observed differential trends of injury by product type (figs. 1 and 3). There were proportionally more injuries due to shaving items and sex toys in younger patients. In contrast to all other common categories of product related GU injuries, these 2 types of injuries were more common in women (53.6% and 63.4%, respectively). Shaving

injuries mostly occurred with a razor (82.7%) and only 2.2% occurred with a hair clipper. The remainder occurred with scissors. Sex toy injuries occurred most commonly during the use of a vibrator or another phallic device (38.8%), or a penis ring (34.7%).

Overall, 12.3% of patients presenting with injuries, of which at least 1 involved the GU system, required hospital admission. Admission rates steadily increased with increasing age with 7.9% of individuals between ages 18 and 29 years and 14.6% of those between ages 45 and 65 years admitted. Although the number of patients older than 65 years who presented with GU injury was low, representing 8% of all adults, the admission rate of this cohort was high at 32.6%. The highest proportions of injuries requiring admission were attributable to sporting items (38.9%). Specifically, all terrain vehicles and bicycles were responsible for 7.9% and 7.7% of all GU injury related admissions, respectively. Falls from stairs or ladders were attributable to 9.9% of admissions. Of injuries requiring inpatient admission internal GU organs were involved in 39% of cases. Of internal GU organ injuries requiring admission 91.5% and 6.4% involved the kidney and bladder, respectively. Of patients with kidney injuries 55.2% were admitted.

DISCUSSION

To our knowledge this is the first comprehensive study of the epidemiology of GU injuries due to consumer products in adults who presented to American EDs. Approximately 16,000 adults in the United States sustain such GU injuries annually. This is a number comparable to the estimated number of adults with chemical and electrical burn injuries who presented to American EDs in 2011 (14,880) and almost double the estimated number of those with dental injuries who presented that year (9,311),¹⁶ of which all have been the focus of injury prevention efforts.^{17,18} The yearly incident rate of GU injury was stable, which potentially suggests ways to decrease the number of injuries have not yet been identified or implemented. Most GU injuries were managed on an outpatient basis and involved external genitalia rather than internal GU organs. This was similar to our observations in the pediatric population, in which 92% of patients were treated on an outpatient basis and internal GU organ injury was specified in less than 4% of all injury presentations.¹⁹ We observed that older patients had the highest inpatient admission rates, possibly due to comorbidities that make this cohort more vulnerable after injury. GU internal organ injury also increased admission with traumatic injury to the kidney carrying a 55.2% inpatient admission rate.

Our study differs from prior descriptions of GU trauma, which showed higher involvement of internal organ injury, likely due to sampling a select population that sustained severe trauma requiring inpatient admission.^{1,7,8,12,20-22} By presenting data on minor and severe GU injuries that present to US EDs, our findings complement previous studies of GU injuries and provide a more comprehensive picture of minor injuries that require medical attention.

Practitioners and injury prevention specialists should note that individuals of all age ranges are at risk for GU injury. Young men were the cohort at highest risk. They tended to experience injury mostly during sporting activities, particularly from bicycle falls, with injury often occurring due to an impact between the rider and the top tube or saddle. This was consistent with our observations in the pediatric cohort, in which bicycles and other sporting items were the most commonly identified etiology of injury.¹⁹ Simple preventive measures, such as ensuring proper bicycle fit or wider seats, or using bicycles with a downward sloping top tube, may help decrease such injury.²³ A soft pad over the top tube may also lessen the impact of such trauma. However, to our knowledge the efficacy of such injury prevention measures has not been tested. Therefore, our statements should be considered hypothesis generating rather than definitive risk reduction strategies.

Individuals older than 65 years tended to experience injury during more routine activities, often as a consequence of trauma from falls. This suggests that fall prevention and trauma reduction strategies would be the best interventions in this group. These individuals were at particular risk in the bathroom with a high incidence of falls in showers and bathtubs. Scalds from hot water in the bathroom were also notable. The use of no-slip pads, support rails, bathing stools and easy to control temperature regulation devices in the bathroom are suggested interventions to help prevent such morbidity.^{24,25} Similarly, the cumulative incidence rate of those older than 65 years who sustained falls from climbing fixtures, such as stairs and step stools, was twice that of all other age cohorts. Changes in stair design, such as improved lighting, slip resistant treads, continuous handrails without breaks and design patterns that optimize step visualization, are proposed modification methods to decrease such injury.²⁶

A recent report commissioned by the Centers for Disease Control and Prevention identified the strengths and weaknesses of current policy in addressing fall prevention. Barriers to prevention included lack of provider awareness of risk factors, screening strategies and intervention mechanisms as well as limited Medicare coverage for preventive benefits. The latter was specifically an issue with bathroom related falls, for which Medicare classification of bathroom fall prevention devices, including those previously noted, as nonmedical made implementation difficult due to limited reimbursement.²⁷ This suggests that practitioners and patient advocates must be familiar with fall risk factors and prevention strategies, and also lobby on a public policy level to ensure that appropriate interventions can be established for those at highest risk.

Our observations are particularly relevant to ED practitioners, primary care physicians and urologists, who may serve as first responders for many GU injuries and in the latter 2 instances provide followup care. Efforts should be made to ensure that practitioner trainees are familiar with GU specific acute injury strategies, such as GU burn treatments and associations,²⁸ and zipper detachment strategies for penile skin entrapment.²⁹ The results of our study also underlie the importance of appropriate patient counseling in facilitating prevention. Practitioners should strive not only to understand risk factors and prevention strategies but also to communicate risks and interventions to their patients. This would include broad counseling efforts, such as education regarding bicycling injury for youth and bathroom fall risks for the elderly population as well as more targeted counseling toward specific populations.

Despite the comprehensive nature, reliability and generalizability of the NEISS, there are limitations of the data set and, thus, of our study. Although the NEISS captures most acute GU injuries in the United States, the data set excludes some notable sources of injury, such as motor vehicle accidents, which are a potential source of high acuity injury. In contrast, the data set also does not include some presumably low acuity presentations, such as visits to primary care providers and urgent care facilities. However, given that GU trauma is a rare occurrence in traffic accidents¹² and individuals with most serious GU injuries would likely be sent to an ED by a primary care office, we believe that our data still provide an accurate representation of product related GU injuries of significance. Also, while we identified product associations with GU injury, we were unable to determine if products were misused or defective. Furthermore, it was not documented what preventive measures, such as safety gear, were used by those sustaining injury. In addition, injury severity is not noted in the NEISS database. Such information is important when considering preventive intervention. Inpatient and long-term followup data are also lacking, which limits the ability to assess the full morbidity of GU injuries. Finally, our suggestions for potential injury prevention strategies should be viewed as hypothesis generating, given the observational nature of our study.

CONCLUSIONS

GU injury is a frequent cause of presentation to EDs in the United States, of which the incidence remained stable in the last decade. We identified patterns of injury with common consumer products and particular patient cohorts at risk. This epidemiological information can be used to promote injury prevention via targeted product and behavior modifications, as well as via education of consumers and practitioners to assist in the limitation and informed treatment of such injuries.

Acknowledgments

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Abbreviations and Acronyms

CPSC	Consumer Products Safety Commission
ED	emergency department
GU	genitourinary
NEISS	National Electronic Injury Surveillance System

REFERENCES

1. Deibert CM, Spencer BA. The association between operative repair of bladder injury and improved survival: results from the National Trauma Data Bank. *J Urol.* 2011; 186:151. [PubMed: 21575961]
2. Asgari M, Hosseini S, Safarinejad M, et al. Penile fractures: evaluation, therapeutic approaches and long-term results. *J Urol.* 1996; 155:148. [PubMed: 7490817]
3. McGinty DM, Mendez R. Traumatic ureteral injuries with delayed recognition. *Urology.* 1977; 10:115. [PubMed: 898448]
4. Elliott SP, McAninch JW. Ureteral injuries from external violence: the 25-year experience at San Francisco General Hospital. *J Urol.* 2003; 170:1213. [PubMed: 14501727]
5. Benchekroun A, Alami M, Ghadouane M, et al. Anterior urethral injury. Report of 23 cases. *Ann Urol (Paris).* 2002; 36:150. [PubMed: 11969051]
6. Black PC, Miller EA, Porter JR, et al. Urethral and bladder neck injury associated with pelvic fracture in 25 female patients. *J Urol.* 2006; 175:2140. [PubMed: 16697821]
7. Wessells H, Suh D, Porter JR, et al. Renal injury and operative management in the United States: results of a population-based study. *J Trauma.* 2003; 54:423. [PubMed: 12634519]
8. Bjurlin MA, Zhao LC, Goble SM, et al. Bicycle-related genitourinary injuries. *Urology.* 2011; 78:1187. [PubMed: 21945282]
9. Yacobi Y, Tsivian A, Sidi AA. Emergent and surgical interventions for injuries associated with eroticism: a review. *J Trauma.* 2007; 62:1522. [PubMed: 17563678]
10. Voelzke BB, McAninch JW. Renal gunshot wounds: clinical management and outcome. *J Trauma.* 2009; 66:593. [PubMed: 19276726]
11. Palaniappa NC, Telem DA, Ranasinghe NE, et al. Incidence of iatrogenic ureteral injury after laparoscopic colectomy. *Arch Surg.* 2012; 147:267. [PubMed: 22430909]
12. 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. [PubMed: 16430642]
13. Song T, Kim TJ, Kang H, et al. A review of the technique and complications from 2,012 cases of laparoscopically assisted vaginal hysterectomy at a single institution. *Aust N Z J Obstet Gynaecol.* 2011; 51:239. [PubMed: 21631443]

14. NEISS. The National Electronic Injury Surveillance System—A Tool for Researchers. Division of Hazard and Injury Data Systems, U.S. Consumer Product Safety Commission; Washington, D.C.: 2000.
15. Schroeder, T. The NEISS Sample (Design and Implementation). Division of Hazard and Injury Data Systems, U.S. Consumer Product Safety Commission; Washington, D.C.: 2001.
16. U.S. Consumer Product Safety Commission. [June 30, 2012] NEISS Estimates Query Builder. Available at: <https://www.cpsc.gov/cgibin/NEISSQuery/home.aspx>.
17. Lloyd ECO, Michener M, Williams MS. Outpatient burns: prevention and care. *Am Fam Physician*. 2012; 85:25. [PubMed: 22230304]
18. Bourguignon C, Sigurdsson. Preventive strategies for traumatic dental injuries. *Dent Clin North Am*. 2009; 53:729. [PubMed: 19958909]
19. Tasian GE, Bagga HS, Fisher PB, et al. Pediatric genitourinary injuries in the United States from 2002 to 2010. *J Urol*. 2012; 189:288. [PubMed: 23174237]
20. Baverstock R, Simons R, McLoughlin M. Severe blunt renal trauma: a 7-year retrospective review from a provincial trauma centre. *Can J Urol*. 2001; 8:1372. [PubMed: 11718633]
21. Hammad FT, Eid HO, Hefny AF, et al. Profiling genitourinary injuries in United Arab Emirates. *J Emerg Trauma Shock*. 2011; 4:342. [PubMed: 21887022]
22. Bariol S, Stewart G, Smith R, et al. An analysis of urinary tract trauma in Scotland: Impact on management and resource needs. *Surgeon*. 2005; 3:27. [PubMed: 15789790]
23. Thompson MJ, Rivara FP. Bicycle-related injuries. *Am Fam Physician*. 2001; 63:2007. [PubMed: 11388717]
24. Stevens JA, Haas EN, Haileyesus T. Non-fatal bathroom injuries among persons aged 15 years—United States, 2008. *J Safety Res*. 2011; 42:311. [PubMed: 22017838]
25. Panel on Prevention of Falls in Older Persons, American Geriatrics Society and British Geriatrics Society. Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *J Am Geriatr Soc*. 2011; 59:148. [PubMed: 21226685]
26. Startzell JK, Owens DA, Mulfinger LM, et al. Stair negotiation in older people: a review. *J Am Geriatr Soc*. 2000; 48:567. [PubMed: 10811553]
27. Analysis of Medicare Policy in Relation to Preventing Falls Among Older Adults. American Occupational Therapy Association; San Diego: Jun 7. 2010
28. Abel NJ, Klaassen Z, Mansour EH, et al. Clinical outcome analysis of male and female genital burn injuries: a 15-year experience at a level-1 burn center. *Int J Urol*. 2012; 19:351. [PubMed: 22220856]
29. Inoue N, Crook SC, Yamamoto LG. Comparing 2 methods of emergent zipper release. *Am J Emerg Med*. 2005; 23:480. [PubMed: 16032615]

Rank	18-28 years	29-45 years	46-65 years	66+ years	All Ages
1	Sporting items (39.6%)	Sporting items (28.5%)	Sporting items (23.6%)	Furniture (19.5%)	Sporting items (30.1%)
2	Clothing items (8.7%)	Clothing items (8.8%)	Bathroom fixtures (10%)	Bathroom fixtures (15.6%)	Furniture items (9%)
3	Shaving items (8.1%)	Furniture (8.8%)	Clothing items (9.4%)	Climbing fixtures (10.9%)	Clothing items (8.7%)
4	Furniture (7.7%)	Shaving items (6.8%)	Furniture (7.4%)	Flooring (8.8%)	Shaving items (6.9%)
5	Bathing products (5.5%)	Bathing products (4.9%)	Shaving items (6.3%)	Sporting items (8.8%)	Bathroom fixtures (5.6%)
6	Climbing fixtures (3.6%)	Climbing fixtures (4.6%)	Climbing fixtures (5.3%)	Clothing items (5.9%)	Climbing fixtures (4.9%)
7	Sex Toys (2.6%)	Bathroom Fixtures (4.2%)	Bathing products (4.1%)	Bathing products (3.5%)	Bathing products (4.8%)

Figure 1.
Percent of top 7 categories of consumer products associated with GU injury by age range.
Remaining injuries were divided among more than 30 additional product categories.

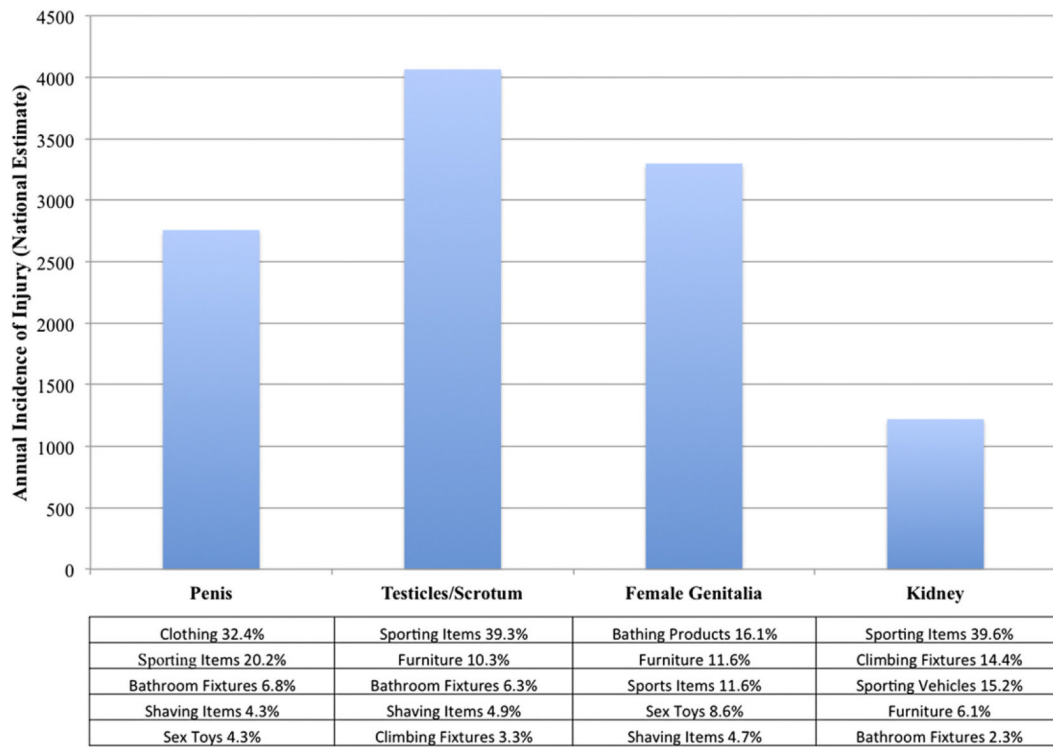


Figure 2. Estimated annual incidence of GU injury presentations to ED for most commonly injured GU organs and most common types of consumer products identified as causing injury to each GU organ category.

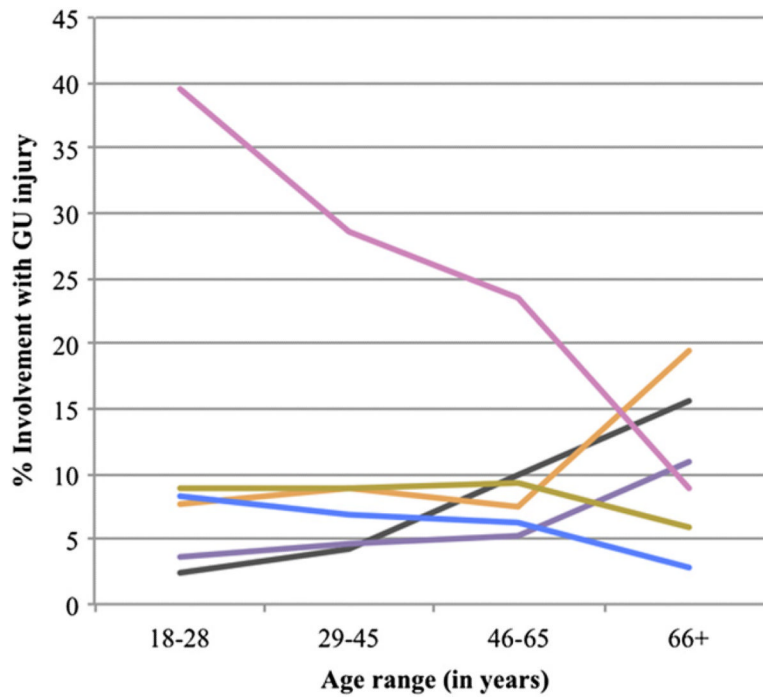


Figure 3. Age and product related GU injuries from 2002 to 2010. Likelihood of injury from consumer products differed across age ranges. Black curve indicates bathroom fixtures. Purple curve indicates climbing fixtures. Orange curve indicates furniture items. Blue curve indicates shaving items. Brown curve indicates clothing. Pink curve indicates sporting items.

Table 1

Demographic features of patients presenting to US EDs with GU injuries from 2002 to 2010

	% Pts	National Estimated No. Pts (95% CI)	Annual Pt Incidence (95% CI)
Totals		142,144 (115,324–168,964)	15,794 (12,814–18,774)
Age:			
18–28	38.1	53,294 (42,660–63,929)	5,922 (4,740–7,103)
28–15	35.8	50,536 (42,445–58,627)	5,615 (4,717–6,514)
45–65	18.4	26,387 (21,129–31,645)	2,932 (2,348–3,516)
65+	7.7	11,927 (9,090–14,763)	1,325 (1,010–1,640)
Gender:			
M	69.1	98,274 (82,662–113,886)	10,919 (9,184–1,265)
F	30.9	43,870 (34,972–52,768)	4,874 (3,886–5,863)
Location where injury occurred:			
Home	42	59,685 (50,320–69,050)	6,632 (5,591–7,672)
Recreation or sports place	11.5	16,355 (12,095–20,614)	1,817 (1,344–2,290)
Other public property	4.8	6,865 (4,613–9,117)	763 (513–1,013)
Street/highway	3.8	5,394 (2,381–8,408)	599 (265–934)
School/college	0.4	632 (103–1,162)	70 (11–129)
Farm/ranch	0.2	266 (0–573)	30 (0–64)
No record	37.2	52,945 (38,193–67,698)	5,883 (4,244–7,522)
Disposition:			
Evaluated, treated + released	85.7	122,310 (102,839–141,781)	13,590 (11,427–15,753)
Treated + transferred	2.1	4,095 (2,836–5,354)	455 (315–595)
Admitted for treatment	10.2	12,924 (8,847–17,002)	1,436 (983–1,889)
Held for observation	0.4	574 (62–1,086)	64 (7–121)
Left without being seen	1.6	2,089 (1,137–3,040)	232 (126–338)
No record	0.1	152 (0–314)	17 (0–35)

Table 2

Most common consumer products associated with adult GU injury from 2002 to 2010

Category *	All GU Injuries	% Category Injuries	National Estimated No. Pts (95% CI)	Annual Pt Incidence (95% CI)
<i>Sporting items</i>				
Overall	30.1%		42,987 (33,619–52,356)	4,776 (3,735–5,817)
% Male	83.1			
Mean age	32.9			
% Inpt admission	14.9			
% Product:				
Bicycles + equipment	7.7	25.4	10,906 (7,374–14,439)	1,212 (819–1,604)
Sports vehicles	3.4	11.2	4,825 (2,551–7,099)	536 (283–789)
Basketball equipment	2.0	6.5	2,777 (1,695–3,859)	309 (188–429)
Baseball + softball equipment	1.5	5.0	2,164 (1,401–2,927)	240 (156–325)
Swimming + equipment	1.3	4.2	1,807 (789–2,825)	201 (88–319)
Football equipment	1.2	4.0	1,705 (1,135–2,275)	189 (126–253)
Exercise equipment	1.2	3.9	1,691 (870–2,513)	188 (97–279)
Skiing/snowboarding equipment	1.2	3.8	1,636 (529–2,743)	182 (59–305)
Soccer equipment	1.0	3.4	1,441 (934–1,948)	160 (104–216)
<i>Furniture items</i>				
Overall	9.0%		13,137 (10,481–15,792)	1,460 (1,165–1,755)
% Male	60			
Mean age	42.6			
% Inpt admission	11.5			
% Product:				
Seats with back	3.1	34.1	4,474 (3,020–5,927)	497 (336–659)
Bed	2.3	25.4	3,335 (2,395–4,276)	371 (266–475)
<i>Clothing items</i>				
Overall	8.7%		13,297 (10,465–16,130)	1,477 (1,477–1,792)
% Male	87.3			
Mean age	36.5			
% Inpt admission	1.8			
% Product:				
Zipper injury	6.0	64.4	8,562 (6,536–10,588)	951 (726–1,176)
Underwear	0.8	8.9	1,180 (647–1,713)	131 (72–190)
Bottoms	0.7	7.6	1,009 (485–1,533)	112 (54–170)
Footwear	0.3	3.0	393 (87–699)	44 (10–78)
<i>Shaving items</i>				
Overall	6.9%		9,801 (6,813–12,789)	1,089 (757–1,421)
% Male	46.4			
Mean age	34			
% Inpt admission	0.6			
% Product:				

Category [*]	All GU Injuries	% Category Injuries	National Estimated No. Pts (95% CI)	Annual Pt Incidence (95% CI)
Razors	5.8	84.3	8,264 (5,434–11,094)	918 (604–1,233)
Scissors	0.9	13.3	1,301 (764–1,838)	145 (85–204)
Hair clippers	0.2	2.4	235 (36–435)	26 (4–48)
<i>Bathroom fixtures</i>				
Overall	5.5%		8,050 (5,951–10,151)	894 (661–1,128)
% Male	66.5			
Mean age	50.1			
% Inpt admission	11.2			
% Product:				
Shower	1.9	34.0	2,738 (1,705–3,771)	304 (189–419)
Toilet	1.7	29.2	2,348 (1,484–3,213)	261 (165–357)
Bathtub	1.6	28.3	2,279 (1,402–3,156)	253 (156–351)

* Top 5 product categories with remaining injuries divided among more than 30 others, each with less than 5% involvement with GU injury.