



# Toy-Related Deaths and Injuries Calendar Year 2017

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*11/1/2018*

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## Executive Summary

In this report, U.S. Consumer Product Safety Commission (CPSC) staff presents the latest available statistics on deaths and emergency department-treated injuries associated with toys. For toy-related deaths and injuries, it is important to note that although a toy was associated with many of the incidents, the toy was not necessarily the cause of the death or injury. Additionally, due to delays in death certificate reporting, fatality information for 2015, 2016, and 2017 is not yet complete.

### Reported Fatalities in Calendar Year 2017

- CPSC staff received reports of 13 toy-related deaths that occurred in the 2017 calendar year among children younger than 15 years old. All 13 victims were younger than 12 years of age.
- Riding toys were associated with seven (54 percent) of the 13 reported deaths in 2017. Six of the riding toy deaths were due to motor vehicle involvement.

### Emergency Department-Treated Injuries in Calendar Year 2017<sup>1</sup>

- In 2017, there were an estimated 251,700 toy-related injuries treated in U.S. hospital emergency departments.
- Thirty-eight percent of the estimated emergency department-treated injuries were classified as lacerations, contusions, or abrasions. Forty-four percent of the estimated injuries were to the head and face area, the most commonly affected area of the body.
- Males accounted for 145,100 (58 percent) of the estimated toy-related injuries in 2017.
- Ninety-five percent of the emergency department-treated, toy-related injury victims were treated and released.
- Of the 251,700 estimated toy-related, emergency department-treated injuries, an estimated 184,000 (73 percent) happened to children younger than 15 years of age; an estimated 174,300 (69 percent) occurred to children 12 years of age or younger; an estimated 89,800 (36 percent) happened to children younger than 5 years of age.
- There is no statistically significant trend in the estimated number of toy-related injuries from 2013 to 2017, for all individuals, children younger than 15 years, children 12 years of age or younger, or children younger than 5 years.
- For children 12 years of age or younger and children younger than 15 years old, nonmotorized scooters continued to be the category of toys associated with the most injuries (21 percent and 22 percent, respectively) in 2017. However, there is a statistically significant decreasing trend in the estimated number of injuries associated with nonmotorized scooters from 2013 to 2017 for children in these two age groups.

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<sup>1</sup> The percentages are calculated from the actual injury estimates.

## Introduction

This report provides updated summary information on toy-related fatalities for the years 2015 and 2016, and detailed information on toy-related fatalities for 2017. These fatality counts are based on reports obtained by CPSC staff from the CPSC Injury and Potential Injury Incident file (IPII), Death Certificate File (DTHS), In-Depth Investigations (INDP), and the National Electronic Injury Surveillance System (NEISS). In addition, this report presents the estimated emergency department-treated injuries associated with toys for the 2017 calendar year and the injury estimates from 2013 to 2017, based on the NEISS. In Appendix A, historical estimated toy-related emergency department-treated injuries from 2003 to 2017 are given, along with their 95 percent confidence intervals. Appendix B lists the NEISS product codes used to generate this report.

## Toy-Related Deaths<sup>2</sup>

Fatalities of children younger than 15 years of age that were associated with a toy from 2015 to 2017, as reported to CPSC staff, are summarized in Table 1. The reported death totals for each year and age groups are listed at the top of the table, with each year's reported deaths detailed by the type of toy with a parenthetical description of the hazard in the rows below. Toy types that are associated with more than one death between 2015 and 2017 are listed in Table 1 to highlight the toys (and associated hazards). For other types of toys associated with only one fatality across the given years, the information is summarized in the final row of the table. Fatalities are considered in-scope where a toy was present and, based on statements by investigators, police, family members, or medical examiners, may have played a contributing role in the death.

Due to delays in death certificate reporting, fatality information for 2015, 2016, and 2017 is not yet complete. The data from 2015 and 2016 have been updated based on five new incident reports received by CPSC staff during 2017—two fatalities happened in 2015, and three fatalities occurred in 2016. Thus, the data differ from the reported fatality tabulations detailed in the previous memorandum for the calendar year 2016.<sup>3</sup> The five new fatalities involved children 10 months old to 13 years of age, and the toys involved were: a ball, a synthetic rubber ball, toy beads, a plush snake and a foam football.

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<sup>2</sup> These fatalities do not represent a sample of known probability of selection. They may not include all of the toy-related deaths that occurred during the time period, in part, because at the time of data extraction, death certificate reporting was 99 percent, 89 percent, and 44 percent complete for 2015, 2016, and 2017, respectively.

<sup>3</sup> Y. Tu, "Toy-Related Deaths and Injuries, Calendar Year 2016," CPSC, November 2017.

**Table 1: Reported Toy-Related Deaths Among Children Younger Than 15 Years of Age  
2015–2017**

Type of Toy (Hazard)	2015 <sup>4</sup>		2016 <sup>5</sup>		2017	
	Children 12 Years of Age or Younger <sup>¥</sup>	Children 13 and 14 Years of Age	Children 12 Years of Age or Younger <sup>¥</sup>	Children 13 and 14 Years of Age	Children 12 Years of Age or Younger <sup>¥</sup>	Children 13 and 14 Years of Age
<b>TOTAL</b>	<b>14</b>		<b>10</b>		<b>13</b>	
<b>Sub Total</b>	<b>13</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>13</b>	<b>0</b>
Nonmotorized scooters (motor vehicle involvement)	4				4	
Balls, other (drowning, airway obstruction)	2		1		2	
Tricycles (motor vehicle involvement, drowning)			2		3	
Rubber balls (airway obstruction, aspiration)	1		1		1	
Stuffed toys/doll/doll accessory/toy figure (hanging, airway obstruction, suffocation)				1	2	
Nonmotorized riding toys (motor vehicle involvement)	1		1			
Balloons/balloon strings (choking, asphyxia/suffocation)	1		1			
Water guns (drowning)	2					
Other toys with a single reported fatality in the year (airway obstruction, asphyxiation, poisoning, drowning, battery ingestion)	2	1	3		1	

Source: INDP, IPII, DTHS, and NEISS from 1/1/2015 to 12/31/2017; CPSC. Data were extracted in July 2018.

<sup>¥</sup> Toy-related deaths among children 12 years of age or younger are presented separately to be consistent with the age definition for a children's product in the Consumer Product Safety Improvement Act of 2008 (CPSIA), 15 U.S.C. § 2052 (a)(2).

<sup>4</sup> Two new toy-related deaths were reported to CPSC staff occurring in the 2015 calendar year, increasing the number reported deaths to 14 in 2015.

<sup>5</sup> Three new toy-related deaths were reported to CPSC staff occurring in the 2016 calendar year, increasing the number of reported deaths to 10 in 2016.

Table 2 details the fatalities associated with toys for children younger than 15 years of age in 2017 that were reported to CPSC staff. The toy types and associated hazards involved in these reported fatalities are presented in descending order of the frequency of reports. There is an unspecified toy in Table 2, which was associated with one death that is included in the last row of Table 1 with “other toys.”

As shown in Table 2, seven of the 13 reported fatalities (54 percent) of children younger than 15 years of age in 2017 were associated with riding toys, and the hazards were motor vehicle involvement and drowning. The riding toys involved were nonmotorized scooters and tricycles.

**Table 2: Reported Toy-Related Deaths Among Children Younger Than 15 Years of Age  
2017**

Type of Toys	Children 12 Years of Age or Younger <sup>‡</sup>	Children 13 and 14 Years of Age
<b>TOTAL</b>	<b>13</b>	
<b>Sub Total</b>	<b>13</b>	<b>0</b>
Nonmotorized scooters (motor vehicle involvement)	4	
Tricycles (motor vehicle involvement, drowning)	3	
Ball, other (airway obstruction)	2	
Stuffed toy/toy figure (airway obstruction, suffocation)	2	
Rubber ball (airway obstruction)	1	
Unspecified toy (battery ingestion)	1	

Source: INDP, IPII, DTHS, and NEISS from 1/1/2017 to 12/31/2017; CPSC. Data were extracted in July 2018.

<sup>‡</sup> Toy-related deaths among children 12 years of age or younger are presented separately to be consistent with the age definition for a children’s product in the Consumer Product Safety Improvement Act of 2008 (CPSIA), 15 U.S.C. § 2052 (a)(2).

Of the 13 toy-related fatalities involving children in 2017, five victims were females, and eight were males. The age range for the 13 reported deaths is 8 months to 9 years. The scenario-specific details of some of these incidents are described below.

### **Nonmotorized Scooters**

Three boys and one girl—ages 4 to 8 years—were struck and killed by motor vehicles while riding nonmotorized scooters.

- A 4-year-old boy was riding an unpowered stand-up scooter in a driveway of a mobile home park. The victim was following his older brother who was also riding a similar scooter. A motor vehicle collided with the victim and his scooter as he was passing in front of the motor vehicle. The driver of the vehicle did not see the victim. The victim and the scooter wedged underneath the chassis of the vehicle. Local police and fire responded to the scene, and the victim was transported to a local trauma center. The victim was pronounced dead later that day. The cause of death was blunt force head trauma.

- A 6-year-old boy was struck by a sports utility vehicle (SUV) while riding his nonmotorized scooter. The victim emerged onto a roadway from his family's driveway, and the driver of the SUV was unable to stop the vehicle before striking the victim. The victim was taken to a local hospital and then airlifted to a university medical center where he was pronounced deceased.
- An 8-year-old boy was riding his two-wheel kick/push style scooter in a residential park. The victim entered a roadway adjacent to the park without looking for oncoming traffic. The victim was struck by a vehicle and was thrown several feet from the scooter. The victim was transported to a local hospital where he was pronounced deceased.
- An 8-year-old girl was riding a scooter near her home. She was struck by a hit-and-run vehicle when she was crossing a street. The victim was tossed through the air and onto the roadway as the vehicle that hit her sped off. The victim suffered multiple blunt force injuries to her entire body consisting of fractures and internal injuries. The victim was taken to a children's medical center where she died of her injuries later that day.

### **Tricycles**

Two girls—ages 14 months and 8 years—were struck and killed by motor vehicles while riding tricycles. A 3-year-old boy drowned when he accidentally fell into a swimming pool while riding his tricycle near it.

- A 14-month-old girl was riding a tricycle near the driveway of her mobile home. The victim was struck by a van driven by her father when her father repositioned the vehicle in the driveway and rolled over the victim. The victim was taken to a children's hospital by EMS and died of her injuries there later that day. The medical examiner concluded that the death was accidental and the cause was blunt torso trauma.
- A 3-year-old boy and his 31-year-old father were found unresponsive in an in-ground pool of an apartment complex. It was reported that the child and his father were playing at the poolside, and the child accidentally fell into the deep end of the pool while riding his tricycle. According to the police report, the father entered the pool to try to save his son but became a victim himself. The emergency responders attempted lifesaving procedures on both victims at the scene. The victims were taken to a local hospital where they were pronounced deceased.
- An 8-year-old girl was hit by a mini-van while riding her tricycle. The victim rode up to an intersection and inexplicably rode into oncoming traffic. The victim collided with a mini-van. The victim suffered a traumatic brain injury and blunt force trauma to her abdomen. The victim was transported to a local hospital where she died from her injuries.

### **Balls, Other**

Two boys—ages 21 months and 9 years—died of airway obstruction when a toy ball lodged in their airways.

- A 21-month-old male toddler was in the family vehicle with family members. The victim sat in his car seat when he swallowed a small ball in his hand. The victim's mother attempted to remove the ball without success and the ball became lodged within the victim's airway. Rescue personnel were dispatched, and the victim was transported to a medical center for treatment. The victim was pronounced dead 5 days later. The victim died of asphyxia due to airway occlusion by a foreign object.
- A 9-year-old boy was found in his room having trouble breathing, and 911 was called. Medics arrived and dislodged a toy ball from the victim's throat. The ball was made of orange foam measuring 1" across. The victim was transported to a hospital and was pronounced deceased. The cause of death was asphyxia.

### **Stuffed Toy/Toy Figure**

An 8-month-old baby boy suffocated on a large stuffed teddy bear, and a 4-year-old girl choked on a rubber toy dog.

- An 8-month-old baby boy was found unresponsive in his bedroom. According to the police report, the victim and his parents stayed in the same room due to remodeling of the house and their beds were next to each other with a small gap between the beds. The victim was found wedged in a gap approximately 8 inches between a toddler bed and a king size mattress, and he was positioned face down atop a large stuffed teddy bear. The victim was not yet known to be able to roll over, but his mother placed the teddy bear in that location in case the victim rolled off the toddler bed. EMS lifesaving efforts were unsuccessful and the victim was pronounced deceased. The cause of death was suffocation and the death was accidental.
- A 4-year-old girl with a medical history of asthma, choking and swallowing issues choked on a rubber toy dog—a soft pliable toy that measured 5 x 3 x 3 cm. The victim was seen chewing and putting the toy dog in her mouth prior to the incident. The victim started choking, and the family members picked the victim up and turned her upside down and hit her back for an unknown period of time. The Heimlich maneuver was performed by responding EMS staff, and the victim was taken to a local emergency department. An emergency surgery was performed and the toy was removed. The victim was stable for a short period of time before her heart stopped and was subsequently declared deceased.

### **Rubber Ball**

A 4-year-old girl choked on a small rubber ball. According to the medical examiner's report, the victim was watching television on the bed with her mother while the mother was taking a nap. The victim's mother was awakened to the sound of gagging and the victim's movement. The victim's mother attempted to remove the ball unsuccessfully and immediately called 911. Paramedics were able to remove the small rubber ball. The victim was flown to a local hospital where she died 4 days later as a result of her injuries. The cause of death was asphyxiation due to upper respiratory tract obstruction.

### **Unspecified Toy**

According to the information obtained from the police and coroner, a 20-month-old male toddler ingested a button battery from an unspecified electronic toy. The victim was admitted to a local hospital and underwent surgery to remove the battery. Erosion from the battery was noted in the victim's esophagus. The victim reportedly recovered and was sent home. About 2 weeks later, the victim suddenly started vomiting blood while playing. Emergency personnel transported the victim to a hospital where he died of esophageal ulceration and erosion of the aorta.



## Estimated Toy-Related Injuries<sup>6</sup>

In 2017, there were an estimated 251,700 toy-related injuries for all ages treated in U.S. hospital emergency departments. These injuries were related to, but not necessarily caused by, toys. There is no statistically significant trend in the estimated annual toy-related emergency department-treated injuries from 2013 to 2017, for all ages.<sup>7,8</sup> Moreover, for children younger than 15 years of age, children 12 years of age or younger, and children younger than 5 years of age, there is no statistically significant trend during the same time period. Table 3 displays the annual injury estimates across these four age groups from 2013 to 2017. For additional historical estimates, refer to the attached Appendix A.

**Table 3: Annual Toy-Related Emergency Department-Treated Injury Estimates  
2013–2017**

Calendar Year	All Ages	Younger Than 15 Years of Age	12 Years of Age or Younger <sup>‡</sup>	Younger Than 5 Years of Age
2013	246,300	184,500	175,500	83,300
2014	240,900	179,700	170,300	84,000
2015	244,400	181,600	173,200	88,400
2016	240,000	174,100	166,300	85,200
2017	251,700	184,000	174,300	89,800

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

<sup>‡</sup> Toy-related injury estimates among children 12 years of age or younger are presented separately to be consistent with the age definition for a children's product in the Consumer Product Safety Improvement Act of 2008 (CPSIA), 15 U.S.C. § 2052 (a)(2).

Of the 251,700 estimated emergency department-treated injuries associated with toys in 2017, 73 percent (184,000) were sustained by children younger than 15 years of age; 69 percent (174,300) were sustained by children 12 years or younger; and 36 percent (89,800) were sustained by children younger than 5 years of age. Males accounted for 58 percent (145,100) of the estimated treated injuries. Most of the victims (95 percent) were treated and released from the hospital. Three percent of the victims were admitted to the hospital or transferred to another hospital. The remaining 2 percent were held for observation or left without being seen by a doctor.

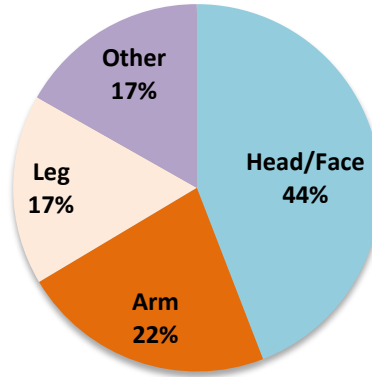
Figure 1 presents the distribution of the 2017 annual estimated toy-related, emergency department-treated injuries for all ages by the specific parts of the body injured. Forty-four percent of the estimated 251,700 injuries, occurred to the head and face area (head, face, eye, mouth, and ear). The arm, from the shoulder to finger, accounted for 22 percent of the injuries. The leg (upper leg, lower leg, knee, ankle, foot, and toes) accounted for 17 percent. The remaining 17 percent of injuries were to other or unspecified parts of the body. The individual body parts with the two highest estimated injuries overall were the face and the head, respectively.

<sup>6</sup> The source of these data is NEISS, which is based on a statistical sample of hospital emergency department-treated injuries. For a description of which cases are included in NEISS, how they're coded, and an alphabetical listing of products with current product codes, please see the NEISS Coding Manual at: <https://cpsc.gov/s3fs-public/2017NEISSCodingManualCPSCOnlyNontrauma.pdf>.

<sup>7</sup> T. Schroeder, "Trend Analysis of NEISS Data," CPSC, 2000.

<sup>8</sup> Throughout this report, a change (trend) in estimated injuries over the given years is determined to be statistically significant where the p-value for the statistic that tests for trend is less than 0.05.

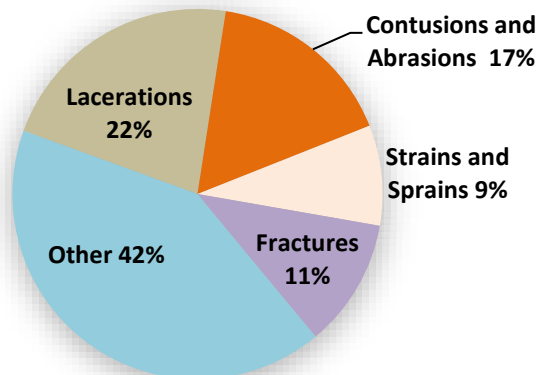
**Figure 1: Distribution of Toy-Related Injury Estimates by Body Regions Injured for All Ages**  
**2017**  
 (Total=251,700)



Source: NEISS, U.S. Consumer Product Safety Commission.

Figure 2 shows the distribution of the annual estimated toy-related emergency department-treated injuries by type of injury. In 2017, 22 percent of the estimated emergency department-treated injuries were diagnosed as lacerations, while an estimated 17 percent were diagnosed as contusions/abrasions. Fractures represented an estimated 11 percent of injuries, and strains/sprains represented an estimated 9 percent. The remaining 42 percent of estimated injuries were spread across several other diagnoses, such as: internal injury, ingestion, dislocation, concussion, and puncture injuries, among others.

**Figure 2: Distribution of Toy-Related Injury Estimates by Type of Injuries for All Ages**  
**2017**  
 (Total=251,700)



Source: NEISS, U.S. Consumer Product Safety Commission. Percentages are calculated from actual estimates and may not add to 100 due to rounding.

In 2017, riding toys continued to be associated with more emergency department-treated injuries for all ages than any other specified category of toy.<sup>9</sup> Riding toys were associated with 69,400 of the estimated injuries, and 70 percent of which were related to nonmotorized scooters. As shown in Table 4, the top three specifically identified toys that were associated with the most estimated injuries for all ages in 2017 were: nonmotorized scooters (48,700, or 19 percent); toy balls (25,700, or 10 percent); and toy vehicles (13,300, or 5 percent).

**Table 4: Toy Categories Associated with the Largest Number of Estimated Emergency Department-Treated Injuries for Different Age Groups  
2017**

Toy Category	Estimated Injuries (% of Total Estimates <sup>‡</sup> )			
	All Ages	Younger Than 15 Years of Age	12 Years of Age or Younger	Younger Than 5 Years of Age
Toys, Not Specified	59,000 (23)	37,200 (20)	36,700 (21)	26,900 (30)
Nonmotorized Scooters	48,700 (19)	40,300 (22)	36,800 (21)	6,100 (7)
Toy Balls	25,700 (10)	17,800 (10)	15,800 (9)	5,500 (6)
Toy Vehicles	13,300 (5)	8,900 (5)	8,800 (5)	5,900 (7)
Building Sets	9,900 (4)	9,200 (5)	9,000 (5)	5,700 (6)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

<sup>‡</sup> Percentages are calculated from the actual injury estimates and then rounded to the nearest integer.

For children younger than 15 years of age, riding toys, with 59,500 injuries, were also associated with more estimated injuries than any other specified category of toy. Of these, 68 percent involved nonmotorized scooters. Table 4 shows that the top three specifically identified toys associated with the highest estimated injuries for children younger than 15 years of age were: nonmotorized scooters (40,300, or 22 percent); toy balls (17,800, or 10 percent); and building sets (9,200, or 5 percent).

For children 12 years of age or younger, riding toys, with 55,800 estimated injuries, were associated with a larger number of estimated injuries than any other specified category of toy. Of these, 66 percent were related to nonmotorized scooters. Table 4 displays that the top three specifically identified toys associated with the most estimated injuries for children 12 years of age or younger were: nonmotorized scooters (36,800, or 21 percent); toy balls (15,800, or 9 percent); and building sets (9,000, or 5 percent).

For children younger than 5 years of age, the data varied somewhat from what was observed for the above three age groups. Although riding toys, with 20,600 estimated injuries, were also associated with more injuries than any other specified category of toy in 2017, the proportion of the estimated injuries related to riding toys for this group was much smaller compared to those for the other three age groups. Furthermore, nonmotorized scooters accounted for only 30 percent of the riding toy-related injuries for this age group. As displayed in Table 4, the top three specifically identified toys associated

<sup>9</sup> Riding toys include these toy products: nonmotorized scooters; tricycles; unpowered nonwheeled riding toys; children's wagons; powered riding toys; unpowered wheeled riding toys; and unspecified riding toys (excluding bicycles and tricycles).

with the most estimated injuries for children younger than 5 years of age in 2017 were: nonmotorized scooters (6,100, or 7 percent); toy vehicles (5,900, or 7 percent); and building sets (5,700, or 6 percent).

Table 5 displays the annual estimated emergency department-treated injuries associated with nonmotorized scooters from 2013 to 2017, for children younger than 15 years of age, children 12 years of age or younger, and for children younger than 5 years of age. This table also presents the injury estimates associated with all toys and the percentages of injury estimates related to nonmotorized scooters. In 2017, nonmotorized scooters continued to be the category of toys associated with the most injuries for children younger than 15 years of age and children 12 years of age or younger. However, there is a statistically significant decreasing trend in the estimated injuries related to nonmotorized scooters between 2013 and 2017 for these two age groups of children.

**Table 5: Nonmotorized Scooter-Related Annual Emergency Department-Treated Injury Estimates for Children of Different Age Groups 2013–2017**

Calendar Year	Estimated Injuries					
	Younger Than 15 Years of Age		12 Years of Age or Younger		Younger Than 5 Years of Age	
	Injuries Associated with All Toys	Injuries (%) Associated with Nonmotorized Scooters	Injuries Associated with All Toys	Injuries (%) Associated with Nonmotorized Scooters	Injuries Associated with All Toys	Injuries (%) Associated with Nonmotorized Scooters
2013	184,500	52,500 (28)	175,500	48,100 (27)	83,300	7,700 (9)
2014	179,700	47,400 (26)	170,300	42,900 (25)	84,000	7,200 (9)
2015	181,600	45,500 (25)	173,200	41,900 (24)	88,400	6,200 (7)
2016	174,100	39,800 (23)	166,300	36,600 (22)	85,200	5,700 (7)
2017	184,000	40,300 (22)	174,300	36,800 (21)	89,800	6,100 (7)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

Toys that are identified but that cannot be placed under already-established toy product codes are likely to be coded under the product code, “Toys, Not Elsewhere Classified.” Table 6 displays the estimated emergency department-treated injuries associated with this product code for all ages, children younger than 15 years of age, children 12 years of age or younger, and children younger than 5 years of age from 2013 to 2017. It shows that the proportions of the estimated injuries related to this product code were similar across different age groups between 2013 and 2017. In addition, there is no statistically significant trend in the estimated injuries associated with this product code from 2013 to 2017, in any of the four age groups presented in Table 6.

**Table 6: Annual Emergency Department-Treated Injury Estimates Associated with Product Code, “Toys, Not Elsewhere Classified,” for Different Age Groups  
2013–2017**

Calendar Year	Estimated Injuries (% of Total Estimates) Associated with “Toys, Not Elsewhere Classified”			
	All Ages	Younger Than 15 Years of Age	12 Years of Age or Younger	Younger Than 5 Years of Age
2013	9,100 (4)	7,500 (4)	7,200 (4)	3,600 (4)
2014	7,600 (3)	6,200 (3)	5,800 (3)	2,800 (3)
2015	7,400 (3)	5,600 (3)	5,400 (3)	2,100 (2)
2016	7,700 (3)	6,400 (4)	6,200 (4)	2,300 (3)
2017	9,900 (4)	8,300 (4)	7,900 (5)	4,200 (5)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

The product code, “Toys, Not Specified,” was reinstated as an available product code in NEISS in 2010, to classify injuries that were associated with a toy that was not identified specifically in the NEISS injury narrative. Table 7 presents the annual estimated emergency department-treated injuries associated with this product code for all individuals, children younger than 15 years, children 12 years of age or younger, and children younger than 5 years from 2013 to 2017. Table 7 shows that the proportions of the estimated injuries related to this product code were very close between 2013 and 2017 for all four age groups. There is no statistically significant trend in the estimated number of injuries associated with this product code from 2013 to 2017 for any of the four age groups specified in Table 7.

**Table 7: Annual Emergency Department-Treated Injury Estimates Associated with Product Code, “Toys, Not Specified,” for Different Age Groups  
2013–2017**

Calendar Year	Estimated Injuries (% of Total Estimates) Associated with “Toys, Not Specified”			
	All Ages	Younger Than 15 Years of Age	12 Years of Age or Younger	Younger Than 5 Years of Age
2013	56,200 (23)	35,400 (19)	34,800 (20)	24,000 (29)
2014	56,400 (23)	35,700 (20)	35,300 (21)	25,600 (30)
2015	58,400 (24)	38,600 (21)	38,200 (22)	28,800 (33)
2016	57,900 (24)	36,000 (21)	35,900 (22)	27,000 (32)
2017	59,000 (23)	37,200 (20)	36,700 (21)	26,900 (30)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

In 2010, CPSC staff conducted a special study of all injuries that were treated at the emergency departments of NEISS hospitals between July 1, 2010 and December 31, 2010, where the product involved was coded: “Toys, Not Specified.” The aim of this study was to identify the actual toys involved and to facilitate the characterization of toys with unknown classifications and the associated hazard patterns. All NEISS cases that were treated during that specific 6-month period and were associated with the product code, “Toys, Not Specified,” were assigned for telephone In-Depth Investigations. During the telephone investigations, telephone interviewers asked the injury victim (or the victim’s caregiver, if the victim was a minor) about the incident scenario, how the injury occurred, what type of toy was involved, the age of the toy, how the toy was obtained, and other questions regarding the characteristics of the toy. CPSC staff wrote a report to summarize the study design, telephone survey results, the estimating methods, and analysis results for this special study.<sup>10</sup>

The special study revealed that 19 percent of the estimated injuries that were associated with the product code, “Toys, Not Specified,” during the special study period, did not involve a toy. Therefore, a 0.81 correction factor was introduced to adjust the injury estimates related to this product code.<sup>10</sup> By using this correction factor, it is assumed that the percent of the estimated injuries that are associated with the product code, “Toys, Not Specified,” and that do not involve a toy, does not change from year to year. The validity of this assumption has not been verified. After applying this correction factor to the toy-related injury estimates in 2017, and further extrapolating the distribution of toys identified from the special study to the injury estimate associated with the product code, “Toys, Not Specified,” the adjusted toy-related injury estimates and the toy categories that were associated with the largest number of adjusted estimated injuries in 2017 are presented in Table 8 for different age groups.

**Table 8: Toy-Related Injury Estimates Adjusted for the Correction Factor for Different Age Groups and Toy Categories Associated with the Most Adjusted Estimated Injuries 2017**

Toys	Adjusted Estimated Injuries (% of Adjusted Estimates for All Toys <sup>‡</sup> )			
	All Ages	Younger Than 15 Years of Age	12 Years of Age or Younger	Younger Than 5 Years of Age
All Toys	240,700 (100)	177,100 (100)	167,500 (100)	84,800 (100)
Nonmotorized Scooters	49,300 (20)	40,700 (23)	37,200 (22)	6,400 (8)
Toy Balls	26,400 (11)	18,200 (10)	16,200 (10)	5,800 (7)
Toy Vehicles	24,000 (10)	15,600 (9)	15,400 (9)	10,700 (13)
Dolls, Plush Toys, and Action Figures	13,900 (6)	10,100 (6)	9,900 (6)	6,400 (8)
Building Sets	12,200 (5)	10,700 (6)	10,400 (6)	6,800 (8)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are adjusted for correction factor and rounded to the nearest 100.

<sup>‡</sup> Percentages are calculated from the non-rounded adjusted injury estimates and then rounded to the nearest integer.

Table 8 displays that the nonmotorized scooters, toy balls, and toy vehicles were associated with the most adjusted estimated injuries in 2017 for all individuals, children younger than 15 years of age, or

<sup>10</sup> Y. Tu and S. Garland, “A NEISS Special Study, “Toys, Not Specified”: Analysis and Results,” CPSC, February 2012.

children 12 years of age or younger. These three categories of toys accounted for over 40 percent of the adjusted estimated toy-related injuries for these three age groups. For children younger than 5 years of age, toy vehicles, building sets, and “dolls, plush toys, and action figures,” were associated with the most adjusted estimated injuries, and they represented 28 percent<sup>11</sup> of the adjusted toy-related injuries in 2017.

Notably, after applying the correction factor and extrapolating the 2010 special study results to the toy-related injury estimates in 2017, the adjusted toy-related injuries associated with the product code, “Toys, Not Elsewhere Classified,” for the four age groups specified in Table 8 dropped to about 5 to 6 percent. As for the product code, “Toys, Not Specified,” just 2 to 3 percent of the adjusted estimated toy-related injuries in 2017 were related to this product code for the four age groups listed in Table 8. Therefore, more than 90 percent of the adjusted toy-related injuries in 2017 could be attributed to established specified toy product codes.

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<sup>11</sup> It may not equal to sum of the percentages presented in Table 8 due to rounding.

## Appendix A

### Estimated Number of Toy-Related Injuries from 2003 through 2017

Table 9 and Figure 3 display the annual emergency department-treated injury estimates associated with toys from 2003 through 2017. Statistically significant trends are observed in the data for all ages, children younger than 15 years of age, children 12 years or younger, and children younger than 5 years of age from 2003 to 2017.<sup>12</sup>

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<sup>12</sup> T. Schroeder, "Trend Analysis of NEISS Data," CPSC, 2000.



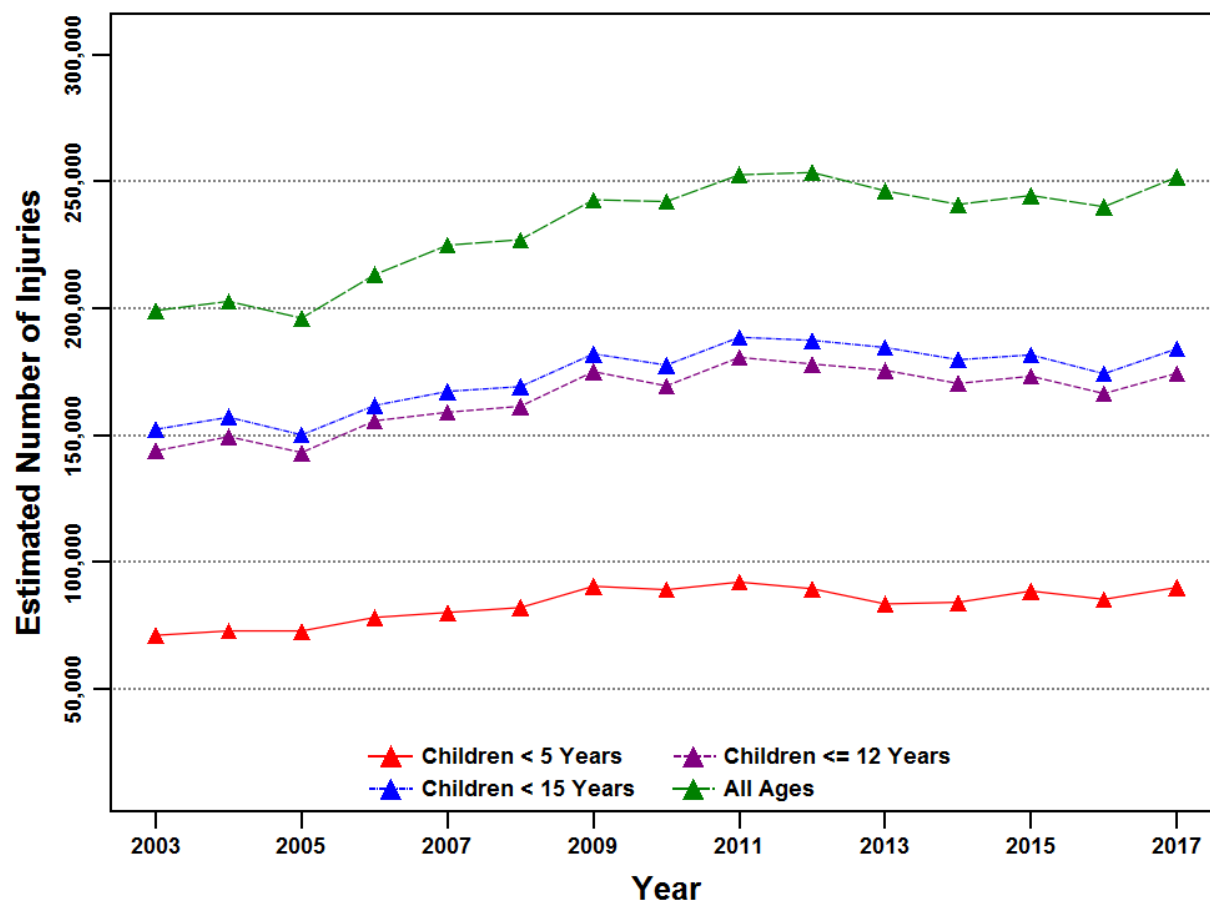
**Table 9: Toy-Related Emergency Department-Treated Injury Estimates for Different Age Groups  
2003–2017**

Calendar Year*	All Ages		Children Younger Than 15 Years of Age		Children 12 Years of Age or Younger		Children Younger Than 5 Years of Age	
	Injury Estimate	95% Confidence Interval	Injury Estimate	95% Confidence Interval	Injury Estimate	95% Confidence Interval	Injury Estimate	95% Confidence Interval
2003	199,000	170,400–227,700	152,200	129,100–175,300	143,700	121,900–165,500	71,000	59,300–82,600
2004	202,700	173,200–232,200	157,000	132,300–181,700	149,300	125,800–172,800	72,700	61,200–84,200
2005	196,100	169,300–222,800	150,000	127,500–172,500	143,000	121,200–164,900	72,700	61,800–83,600
2006	213,200	183,500–242,800	161,600	136,900–186,300	155,600	131,900–179,200	78,000	66,100–89,900
2007	224,800	193,100–256,600	167,200	142,100–192,300	158,900	134,900–183,000	80,000	67,500–92,400
2008	227,000	195,200–258,800	169,100	143,700–194,400	161,300	136,900–185,700	81,900	68,800–95,000
2009	242,700	208,000–277,400	182,000	153,500–210,400	174,900	147,400–202,400	90,300	75,900–104,700
2010	242,000	207,400–276,700	177,500	149,000–206,000	169,300	142,200–196,500	88,900	73,700–104,100
2011	252,600	217,000–288,200	188,500	158,600–218,400	180,600	151,600–209,500	92,000	74,600–109,300
2012	253,500	218,200–288,800	187,300	157,200–217,400	178,000	149,200–206,700	89,300	73,000–105,600
2013	246,300	210,900–281,600	184,500	155,000–213,900	175,500	147,100–203,900	83,300	67,900–98,800
2014	240,900	201,300–280,500	179,700	145,900–213,400	170,300	138,100–202,500	84,000	65,500–102,500
2015	244,400	203,200–285,700	181,600	146,500–216,600	173,200	138,900–207,400	88,400	68,100–108,700
2016	240,000	195,500–284,500	174,100	135,600–212,600	166,300	128,800–203,800	85,200	63,500–106,800
2017	251,700	206,300–297,100	184,000	144,400–223,600	174,300	136,400–212,200	89,800	66,700–113,000

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.

\*Tabulated estimates with confidence intervals for 2003–2017 were produced in July 2018.

**Figure 3: Toy-Related Emergency Department-Treated Injury Estimates for Different Age Groups  
2003–2017**



Source: NEISS, U.S. Consumer Product Safety Commission.

## Appendix B

### NEISS Product Codes for Toys as of January 1, 2017

Product Code	Toy Type
1301	Tricycles (Children's)
1309	Kites or Kite String
1310	Pogo Sticks
1314	Rocketry Sets
1319	Metal or Plastic Molding Sets
1322	Children's Play Tents, Play Tunnels, or Other Enclosures
1325	Inflatable Toys (Excluding Balls and Balloons)
1326	Blocks, Stacking Toys, or Pull Toys
1327	Nonwheeled Riding Toys, Unpowered
1328	Wagons (Children's)
1329	Scooters, Unpowered
1330	Powered Riding Toys
1338	Toy Bows or Arrows
1342	Costumes or Masks
1344	Toy Musical Instruments
1345	Building Sets
1346	Clacker Balls
1347	Balloons (Toy)
1349	Stilts
1350	Squeeze or Squeaker Toys
1352	Slingshots or Sling-Propelled Toys
1353	Toy Boxes or Chests
1354	Marbles
1362	Wood-burning Kits
1365	Water Toys (Excluding Squeeze/Squeaker Toys and Inner Tubes or Similar Floating Equipment)
1376	Molding Compounds
1381	Toys, Not Elsewhere Classified
1389	Other Toy Weapons (Nonprojectile)
1390	Toy Guns, Not Specified

<b>Product Code</b>	<b>Toy Type</b>
1392	Toy Sports Equipment
1393	Chemistry Sets or Science Kits
1394	Dolls, Plush Toys, and Action Figures
1395	Toys, Not Specified
1398	Wheeled Riding Toys, Unpowered (Excluding Bicycles and Tricycles)
1399	Toy Guns With Projectiles
1550	Infant and Toddler Play Centers (Excluding Jumpers, Bouncers, and Exercisers)
5001	Other Toy Weapons (Projectile)
5005	Riding Toys (Excluding Bicycles and Tricycles), Not Specified
5006	Other Toy Guns
5007	Toy Weapons, Not Specified
5010	Crayons Or Chalk (Excluding Billiard or Pool Chalk)
5013	Toy Make-Up Kits or Cosmetics (Excluding Mirrors)
5015	Toy Caps, Cap Toys, or Cap Guns
5016	Balls, Other or Not Specified
5017	Flying Discs and Boomerangs
5018	Doll Houses and Other Play Scenes
5019	Games or Game Parts (Excluding Marbles and Computer Games)
5020	Pretend Electronics, Tools, Housewares, and Appliances
5021	Toy Vehicles (Excluding Riding Toys)