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Consumer Product Safety Commission

Toy-Related Deaths and Injuries Calendar Year 2022

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It has not been reviewed or approved by,
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Executive Summary

In this report, U.S. Consumer Product Safety Commission (CPSC) staff present the latest available statistics on deaths and emergency department (ED)-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 is not yet complete, especially for 2021 and 2022.

This report provides updated summary information on toy-related fatalities for the years 2020 and 2021, along with detailed information on known toy-related fatalities for 2022. CPSC staff bases fatality counts on reports obtained from the CPSC database known as the Consumer Product Safety Risk Management System (CPSRMS). In addition, staff presents in this report the estimated ED-treated injuries associated with toys for the 2022 calendar year, based on the National Electronic Injury Surveillance System (NEISS). In Appendix A, staff presents historical, estimated toy-related, ED-treated injuries from 2015 to 2022, along with the coefficients of variation for the injury estimates. Appendix B lists the NEISS product codes used to generate this report.

Reported Toy-Related Fatalities in Calendar Year 2022

- CPSC staff received reports of eleven toy-related deaths that occurred in calendar year 2022 among children 14 years of age or younger.
- Two fatalities involved choking on bouncy balls and three fatalities involved other types of balls. One fatality was due to a motor vehicle collision with an unpowered scooter. The remaining five fatalities in 2022 involved various other types of toys, including a powered riding toy, stuffed animal, balloon, tricycle, and toy magnets. The children ranged in age from seven months to ten years.

ED-Treated Toy-Related Injuries in Calendar Year 2022¹

- An estimated 209,500 toy-related injuries were treated in U.S. hospital emergency departments in 2022, and males accounted for 54 percent of the injuries.
- Of the estimated 209,500 toy-related injuries, 76 percent were sustained by children 14 years of age or younger; 69 percent were sustained by children 12 years of age or younger; and 38 percent were sustained by children 4 years of age or younger.²

¹ The percentages are calculated from the unrounded injury estimates.

² All toys intended for use by children 12 years of age and under must be third-party tested and certified in a [Children's Product Certificate](#) as compliant with the federal toy safety standard enacted by Congress, and to other applicable requirements as well. Additional age breaks are provided in this report to describe hazards to older and younger children, as were provided in prior reports.

- Forty-one percent of the estimated ED-treated injuries were classified as lacerations or contusions/abrasions. Forty-seven percent of the estimated injuries were to the head and face area, the most commonly affected areas of the body.
- Ninety-four percent of the ED-treated, toy-related injury victims were treated and released.
- Nonmotorized scooters were associated with the largest number of estimated toy-related injuries among the specifically identified toys for all ages; children 14 years of age or younger; children 12 years of age or younger; and children 4 years of age or younger (17 percent, 20 percent, 16 percent, and 8 percent, respectively).

ED-Treated Toy-Related Injuries from 2015 to 2022

- Staff observed a statistically significant decreasing trend in the estimated toy-related injuries for children 14 years of age or younger and children 12 years of age or younger from 2015 to 2022.

Toy-Related Deaths³

Table 1 summarizes fatalities of children 14 years of age or younger that were associated with a toy and that occurred from 2020 to 2022, as reported to CPSC staff. The reported death totals for each year and age group are listed at the top of the table, with each year's reported deaths detailed by the type of toy, and a parenthetical description of the hazard in the rows that follow. Table 1 also lists toy types that are associated with more than one death that occurred from 2020 to 2022, to highlight the toys (and associated hazards). The information for other types of toys associated with only one fatality across the 3 years is summarized in the final row of the table. The Directorate for Health Sciences (HS) provided final adjudication on the scope of toy-related deaths. HS staff considered fatalities to be in scope of this report if a toy was present, and based on statements by investigators, police, family members, or medical examiners, the toy may have played a contributing role in the death. Fatalities that occurred outside of the United States are excluded from this report.

Due to delays in death certificate reporting, fatality information is not yet complete, especially for 2021 and 2022. At the time of data extraction for this report, death certificate reporting was estimated to be at least 90 percent complete for years 2020 and earlier.⁴ The data presented in this report for 2020 and 2021 have been updated since the previous annual report to include five new incident reports CPSC staff received—1 fatality that occurred in 2020, and 4 fatalities that occurred in 2021. Thus, the data differ from the reported fatality tabulations detailed in the previous report for the calendar years 2020 and 2021.⁵ The 5 newly reported fatalities from prior years included asphyxia due to a mylar balloon placed over the child's head, choking on a bouncy ball, positional asphyxia due to a large stuffed animal covering an infant, choking on a balloon, and a closed head injury due to falling from a rotating toy. The children ranged in age from 5 months to 5 years.

³ These fatalities do not represent a sample of known probability of selection.

⁴ Staff measures the reporting percent as the number of months for each state where at least one death certificate was received, divided by 600 (50 states multiplied by 12 months).

⁵ Bragg, S. "Toy-Related Deaths and Injuries Calendar Year 2021," CPSC, November 2022.

Table 1: Reported Toy-Related Deaths Among Children 14 Years of Age or Younger, 2020–2022

Type of Toy (Hazard)	2020 ⁶		2021 ⁷		2022	
	Children 12 Years of Age or Younger*	Children 13 and 14 Years of Age	Children 12 Years of Age or Younger*	Children 13 and 14 Years of Age	Children 12 Years of Age or Younger*	Children 13 and 14 Years of Age
TOTAL	12		6		11	
Sub Total	12	0	6	0	11	0
Balloons (Asphyxia or choking)	4	0	1	0	1	0
Bouncy balls (Choking)	1	0	1	0	2	0
Balls, other (Choking or blunt force trauma to head)	0	0	0	0	3	0
Stuffed animals (Positional asphyxia)	1	0	2	0	1	0
Other toys with a single reported fatality (Choking, drowning, cervical compression, fall, motor vehicle collision, or ingestion)	6	0	2	0	4	0

Source: CPSRMS and NEISS from 1/1/2020 to 12/31/2022; CPSC. Data were extracted in April 2023.

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

⁶ One new toy-related death was reported to CPSC, increasing the total number of reported deaths to 12 (from the 11 presented in the previous report) in 2020.

⁷ Four new toy-related deaths were reported to CPSC, increasing the number of reported deaths to 6 (from the 2 presented in the previous report) in 2021.

Table 2 details the fatalities associated with toys for children 14 years of age or younger in 2022 that were reported to CPSC. The toy types and associated hazards involved in these reported fatalities are presented in descending order of frequency.

Table 2: Reported Toy-Related Deaths Among Children 14 Years of Age or Younger, 2022

Type of Toy (Hazard)	Children 12 Years of Age or Younger*	Children 13 and 14 Years of Age
TOTAL	11	
Sub Total	11	0
Balls, other (Choking or blunt force trauma to head)	3	0
Bouncy ball (Choking)	2	0
Balloon (Asphyxia)	1	0
Nonmotorized scooter (Motor vehicle collision)	1	0
Powered riding toy (Drowning)	1	0
Stuffed animal (Positional asphyxia)	1	0
Toy magnets (Ingestion)	1	0
Tricycle (Motor vehicle collision)	1	0

Source: CPSRMS and NEISS from 1/1/2022 to 12/31/2022; CPSC. Data were extracted in April 2023.

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

Of the 11 toy-related fatalities in 2022, 9 were males and 2 were females. Seven victims were known to be white, and 1 was known to be black/African American. The children ranged in age from 7 months to 10 years. The scenario-specific details of these incidents are presented below.

Balls, other

- A 2-year-old white male struggled to breathe after he placed a soft ball, one-quarter inch in diameter, in his mouth. The medical examiner reported the cause of death as choking.
- A 5-year-old white male died after he was found choking while playing with a sensory ball at home.
- A 10-year-old white female suffered blunt force trauma to the head after being struck by a batted ball.

Bouncy ball

- A 10-year-old white male ingested a bouncy ball and died from anoxic brain injury due to near choking.
- An 8-year-old white male swallowed a 1-inch bouncy ball at school. The ball was removed with the Heimlich maneuver, but the child went into cardiac arrest and later died as a result of multiple organ failure due to cardiac arrest.

Balloon

A 10-year-old male of unknown race was found by his parents unresponsive with his head in a balloon, resulting in asphyxia and cardiac arrest.

Nonmotorized scooter

A 2-year-old white male was riding a kick scooter in his neighbor's driveway. The neighbor backed out of the driveway in an SUV but did not see the child and backed over him, causing fatal injuries.

Powered riding toy

A 3-year-old black/African American male drove his powered riding toy towards an in-ground swimming pool and into the water. He was later pronounced deceased due to drowning.

Stuffed animal

A 7-month-old white male died due to positional asphyxia after he was found unresponsive in a playpen. The infant was placed in the playpen in the supine position and found the following morning in the prone position with a large stuffed animal on top of him, unresponsive, and cold to the touch.

Toy magnets

A 6-year-old female of unknown race swallowed toy magnets and died due to complications of small bowel perforation.

Tricycle

A 2-year-old child of unknown race was hit while riding a tricycle by a pickup truck that was backing out of the garage. The child was pronounced dead at the scene.

Estimated Toy-Related Injuries⁸

In 2022, an estimated 209,500 toy-related injuries for all ages were treated in U.S. hospital emergency departments, and males accounted for 54 percent of the injuries. Most of the victims

⁸ The source of these data is NEISS, which is based on a statistical sample of hospital ED-treated injuries. For a description of which cases are included in NEISS, how they are coded, and an alphabetical listing of products with

(94 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 3 percent were held for observation, left without being seen by a doctor, or died in the emergency department.

Table 3 presents the estimated toy-related, ED-treated injuries in 2022, for different age groups. Of the estimated 209,500 toy-related injuries, 76 percent were sustained by children 14 years of age or younger; 69 percent were sustained by children 12 years of age or younger; and 38 percent were sustained by children 4 years of age or younger.

Table 3: Toy-Related ED-Treated Injury Estimates for Different Age Groups, 2022

Age Groups	All Ages	14 years of Age or Younger	12 Years of Age or Younger [‡]	4 Years of Age or Younger
Injury Estimates	209,500	159,500	145,500	79,700
Injuries per 100,000 People	63	267	285	432

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100. Population estimates for 2022 are from <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/national/asrh/nc-est2021-alldata-r-file06.csv>.

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

Table 4 and Table 5 provide breakdowns by gender and ethnicity/race, respectively, for the estimated toy-related, ED-treated injuries in 2022 for the different age groups.

current product codes, please see NEISS Coding Manual at: <https://www.cpsc.gov/s3fs-public/2023NEISSCPSCodingManualfinal.pdf?VersionId=hdWvCZ5hjCqMugBF3xLJMLM3ewXYTMrH>

Table 4: Toy-Related ED-Treated Injury Estimates for Different Age Groups by Victims' Gender, 2022

Gender	All Ages		14 years of Age or Younger		12 Years of Age or Younger		4 Years of Age or Younger	
	Estimated Injuries (% of Total Estimates [‡])	% of U.S. Population	Estimated Injuries (% of Total Estimates [‡])	% of U.S. Population	Estimated Injuries (% of Total Estimates [‡])	% of U.S. Population	Estimated Injuries (% of Total Estimates [‡])	% of U.S. Population
Male	113,400 (54)	50	91,000 (57)	51	86,800 (60)	51	50,300 (63)	51
Female	96,100 (46)	50	68,400 (43)	49	58,600 (40)	49	29,400 (37)	49

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100. Population estimates for 2022 are from <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/national/asrh/nc-est2021-alldata-r-file06.csv>

[‡] Percentages are calculated from the unrounded injury estimates and then rounded to the nearest integer.

Table 5: Toy-Related ED-Treated Injury Estimates for Different Age Groups by Victims' Ethnicity and Race*, 2022

Ethnicity	Race	All Ages		14 years of Age or Younger		12 Years of Age or Younger		4 Years of Age or Younger	
		% of Est. Inj.‡	% of U.S. Population	% of Est. Inj.‡	% of U.S. Population	% of Est. Inj.‡	% of U.S. Population	% of Est. Inj.‡	% of U.S. Population
Hispanic Origin		10.2	19.1	12.0	25.9	13.3	25.9	13.0	26.2
	White	7.0	16.6	8.0	21.6	8.9	21.5	10.0	21.3
	Black/African American	0.2	1.0	0.2	1.7	0.2	1.7	0.2	1.9
	Asian	<0.1	0.2	<0.1	0.4	<0.1	0.4	0.1	0.4
	American Indian/Alaska Native	<0.1	0.6	<0.1	1.0	<0.1	1.0	-	1.1
	Native Hawaiian/Pacific Islander	<0.1	0.1	-	0.1	-	0.1	-	0.1
	Other ⁵	2.9	0.6	3.8	1.2	4.1	1.3	2.7	1.3
Non-Hispanic Origin		89.8	80.9	88.0	74.1	86.7	74.1	87.0	73.8
	White	67.0	59.0	65.9	48.8	67.2	48.6	68.7	48.0
	Black/African American	16.1	12.6	14.0	13.8	14.9	13.8	13.2	14.0
	Asian	1.6	6.0	1.8	5.5	2.0	5.6	2.1	5.5
	American Indian/Alaska Native	0.9	0.7	0.9	0.8	0.9	0.8	1.1	0.8
	Native Hawaiian/Pacific Islander	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Other ⁵	4.0	2.4	5.3	4.9	1.5	5.0	1.7	5.3
All		100	100	100	100	100	100	100	100
	White	74.0	75.6	73.8	70.4	76.1	70.1	78.7	69.3
	Black/African American	16.3	13.6	14.3	15.5	15.2	15.5	13.4	15.9
	Asian	1.6	6.2	1.8	5.9	2.0	6.0	2.2	5.9
	American Indian/Alaska Native	0.9	1.3	0.9	1.7	0.9	1.8	1.1	1.9
	Native Hawaiian/Pacific Islander	0.2	0.3	0.2	0.3	0.2	0.4	0.2	0.4
	Other ⁵	7.0	3.0	9.0	6.2	5.6	6.3	4.4	6.6

Source: NEISS, U.S. Consumer Product Safety Commission. Population estimates for 2022 are from <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/national/asrh/nc-est2021-alldata-r-file06.csv>

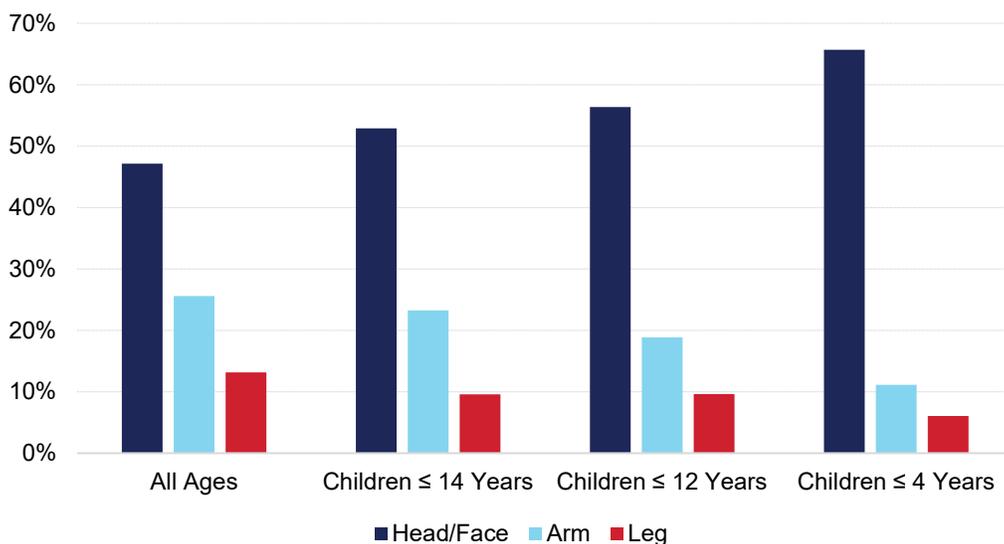
* Excludes any incidents where either Race was "Not Stated" or Ethnicity was "Not Stated", which composed 36 percent of the total estimated injuries.

‡ Percentages are calculated from the unrounded injury estimates and then rounded to the nearest integer.

⁵ This category includes two or more races.

Figure 1 presents the distribution of the 2022 annual estimated toy-related ED-treated injuries by the specific parts of the body most frequently injured for different age groups.^{9,10} As shown in Figure 1, the head/face region was the part of the body associated with the largest number of estimated toy-related injuries in 2022 for all four age groups specified, followed by arms and then legs.

Figure 1: Distribution of Toy-Related Injury Estimates by Body Regions Injured, 2022



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

‡Head/Face regions include NEISS codes for head, eyelid, eye area, nose, forehead, eyeball, mouth, and ear. Arm includes upper arm, elbow, lower arm, shoulder, wrist, hand, and finger. Leg includes upper leg, knee, lower leg, ankle, foot, and toe.

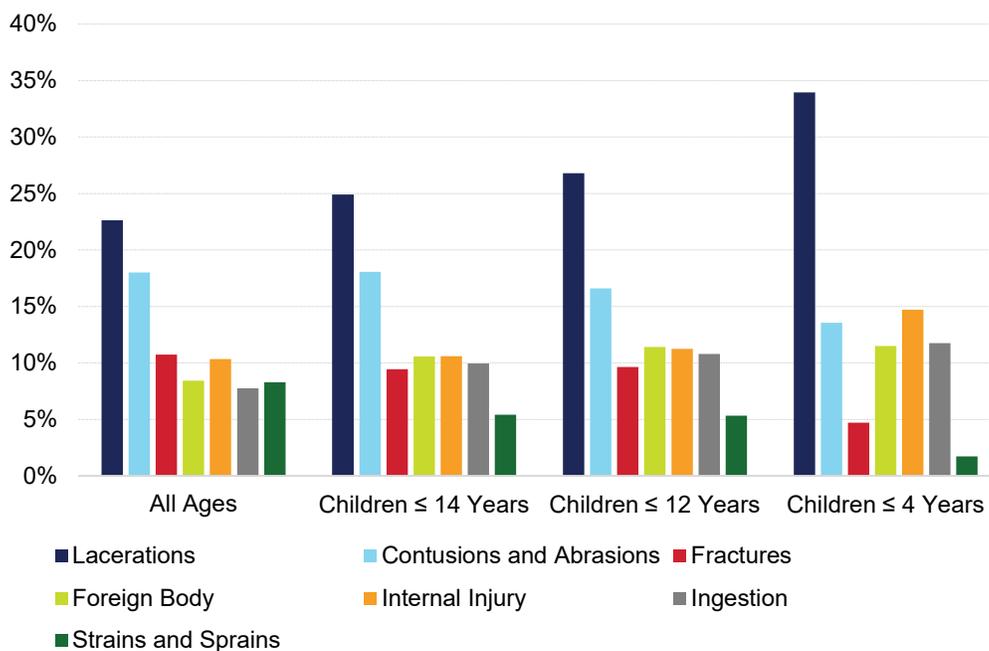
Figure 2 shows the distribution of the annual estimated toy-related ED-treated injuries by the type of injuries diagnosed most frequently for the different age groups.¹¹ For all four age groups, lacerations was the diagnosis associated with the largest number of estimated toy-related injuries in 2022. Contusions/abrasions and fractures ranked second and third for all ages. For children 14 years of age or younger, contusions/abrasions and internal injury ranked second and third. For children 12 years of age or younger, contusions/abrasions and foreign body ranked second and third. For children 4 years of age or younger, internal injury and contusions/abrasions ranked second and third.

⁹ In October 2018, CPSC upgraded the NEISS system. As a result of this upgrade, an emergency-department visit is allowed to contain up to two codes for the body part injured and the diagnosis. In 2022, about 18 percent of the estimated toy-related injuries in NEISS had two codes filled in for body part injured or diagnosis.

¹⁰ If either of the two codes listed a specific body part, staff classified that body part as being injured in the incident for the data analysis purpose.

¹¹ If either of the two codes listed a specific diagnosis (type of injury), staff classified that diagnosis as being the type of injury for the data analysis purpose.

Figure 2: Distribution of Toy-Related Injury Estimates by Type of Injuries, 2022



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

Table 6 presents the toy categories that were associated with the largest number of injuries in 2022. Nonmotorized scooters was the specifically identified toy category that accounted for the most injuries for all age groups. Although building sets was not identified as a top five toy category for the All Ages group, as in previous years, it remained in the top five for the 14 Years of Age or Younger and 12 Years of Age or Younger groups.

Table 6: Toy Categories Associated with the Largest Number of Estimated ED-Treated Injuries for Different Age Groups, 2022

Toy Category	Estimated Injuries (% of Total Estimates [‡])			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
Toys, Not Specified	46,300 (22)	32,500 (20)	31,800 (22)	23,000 (29)
Nonmotorized				
Scooters	35,400 (17)	31,600 (20)	23,100 (16)	6,600 (8)
Toy Balls	22,500 (11)	15,900 (10)	14,000 (10)	5,000 (6)
Toys, Not Elsewhere				
Classified	10,800 (5)	9,200 (6)	9,000 (6)	5,000 (6)
Toy Vehicles	9,800 (5)	7,100 (4)	7,000 (5)	5,600 (7)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.
[‡] Percentages are calculated from the unrounded injury estimates and then rounded to the nearest integer.

In 2020, a NEISS special study was initiated that further investigated all injuries coded as 5022 (Scooters, Powered) and 5024 (Scooters, Unspecified). See Appendix B for details on the special study. Based on the results from this study, staff was able to allocate to the nonmotorized scooter category a proportion of all injuries that were either miscoded as powered scooters or coded as unspecified-if-powered scooters. Hence, the estimates for nonmotorized scooters in 2020 through 2022 are based on the code for nonmotorized scooters as well as a proportion of the miscoded/unspecified scooters, as informed by the results of the special study. Nonmotorized scooters continued to be the specifically identified category of toys associated with the most injuries. Table 7 displays the annual estimated ED-treated injuries associated with nonmotorized scooters and the percentages of injury estimates for different age groups from 2018 to 2022. The estimates for 2021 have been updated since the publication of the previous report. Four cases from the 2021 special study were determined to have been nonmotorized scooters rather than either motorized or unspecified-if-motorized scooters, as originally coded. However, the revision could not be made in a timely manner before the annual report was published. Although Table 7 shows that the proportions of the estimated injuries related to nonmotorized scooters remained steady between 2019 and 2021, and then slightly dropped in 2022, staff found no statistically significant linear trend between 2018 and 2022.¹²

Table 7: Nonmotorized Scooter-Related ED-Treated Injury Estimates for Different Age Groups, 2018–2022

Calendar Year	Estimated Injuries (% of Total Estimates [‡]) Associated with “Nonmotorized Scooter”			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
2018	39,500 (17)	31,700 (19)	28,800 (18)	4,900 (6)
2019	45,400 (20)	35,600 (22)	32,800 (21)	4,700 (6)
2020	42,400 (21)	37,000 (25)	34,700 (24)	5,600 (7)
2021*	44,600 (22)	37,700 (25)	32,000 (22)	6,200 (8)
2022	35,400 (17)	31,600 (20)	23,100 (16)	6,600 (8)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.
[‡] Percentages are calculated from the unrounded injury estimates and then rounded to the nearest integer.
^{*} All estimates in this row were revised since the previous report that was published in 2022.

Toys that are identified but cannot be placed under already established toy product codes are likely to be coded under the product code “Toys, Not Elsewhere Classified.” Table 8 displays the estimated ED-treated injuries associated with this product code and the percentages of injury estimates for different age groups from 2018 to 2022. Staff found a statistically significant

¹² The lowest p-value (probability of occurrence by chance) for the age groups was 0.18. For methodology on trend analysis, see T. Schroeder, “Trend Analysis of NEISS Data,” CPSC, 2000.

increasing trend in the injury estimates for the 12 Years of Age or Younger group and the 4 Years of Age or Younger group.¹³

Table 8: ED-Treated Injury Estimates Associated with “Toys, Not Elsewhere Classified” for Different Age Groups, 2018–2022

Calendar Year	Estimated Injuries (% of Total Estimates [‡]) Associated with “Toys, Not Elsewhere Classified”			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
2018	7,600 (3)	6,400 (4)	6,200 (4)	2,700 (3)
2019	6,100 (3)	4,600 (3)	4,400 (3)	2,100 (3)
2020	7,000 (3)	5,900 (4)	5,800 (4)	3,200 (4)
2021	8,400 (4)	7,300 (5)	7,200 (5)	4,500 (6)
2022	10,800 (5)	9,200 (6)	9,000 (6)	5,000 (6)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.
[‡] Percentages are calculated from the unrounded injury estimates and then rounded to the nearest integer.

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 9 presents the annual estimated ED-treated injuries associated with this product code and the percentages of injury estimates for different age groups from 2018 to 2022. Staff found a statistically significant decreasing trend in the injury estimates for only the All Ages group.¹⁴

Table 9: ED-Treated Injury Estimates Associated with “Toys, Not Specified” for Different Age Groups, 2018–2022

Calendar Year	Estimated Injuries (% of Total Estimates [‡]) Associated with “Toys, Not Specified”			
	All Ages	14 Years of Age or Younger	12 Years of Age or Younger	4 Years of Age or Younger
2018	56,800 (25)	36,200 (22)	35,800 (23)	27,000 (32)
2019	52,300 (23)	32,600 (20)	31,900 (21)	23,600 (30)
2020	50,200 (25)	33,100 (22)	32,900 (23)	24,200 (31)
2021	44,100 (21)	28,000 (18)	27,800 (19)	21,000 (27)
2022	46,300 (22)	32,500 (20)	31,800 (22)	23,000 (29)

Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100.
[‡] Percentages are calculated from the unrounded injury estimates and then rounded to the nearest integer.

¹³ The p-values for the 12 Years of Age or Younger group and the 4 Years of Age or Younger group were 0.04 and 0.02, respectively. The p-values for the All Ages group and 14 Years of Age or Younger group were 0.08 and 0.052, respectively.

¹⁴ The p-value for the All Ages group was 0.03. The p-values for the 14 Years of Age or Younger group, 12 Years of Age or Younger group, and 4 Years of Age or Younger group were 0.07, 0.07, and 0.14, respectively.

Appendix A

Estimated Number of Toy-Related Injuries from 2015 through 2022

Table 10, Figure 3, and Figure 4 display the annual ED-treated injury estimates and rates associated with toys from 2015 through 2022. Staff found a statistically significant decreasing trend in the injury estimates for all groups of ages except for the All Ages and 4 Years of Age or Younger groups.¹⁵

Table 10: Toy-Related ED-Treated Injury Estimates for Different Age Groups, 2015–2022

Calendar Year	All Ages			14 Years of Age or Younger			12 Years of Age or Younger			4 Years of Age or Younger		
	Injury Estimate	CV*	Injuries per 100,000 People	Injury Estimate	CV*	Injuries per 100,000 People	Injury Estimate	CV*	Injuries per 100,000 People	Injury Estimate	CV*	Injuries per 100,000 People
2015	244,400	0.0861	76	181,600	0.0985	298	173,200	0.1010	328	88,400	0.1171	444
2016	240,000	0.0945	74	174,100	0.1128	286	166,300	0.1152	315	85,200	0.1299	427
2017	251,700	0.0921	77	184,000	0.1098	302	174,300	0.1109	331	89,800	0.1314	452
2018	226,100	0.1069	69	166,200	0.1355	273	158,800	0.1343	302	83,800	0.1407	423
2019	224,200	0.1181	68	162,700	0.1454	269	154,700	0.1458	296	78,700	0.1519	402
2020	198,700	0.1179	60	149,800	0.1368	248	145,200	0.1379	280	78,800	0.1484	408
2021 ⁵	206,900	0.1135	63	153,300	0.1377	256	143,800	0.1414	280	76,900	0.1627	404
2022	209,500	0.1212	63	159,500	0.1435	267	145,500	0.1456	285	79,700	0.1732	432

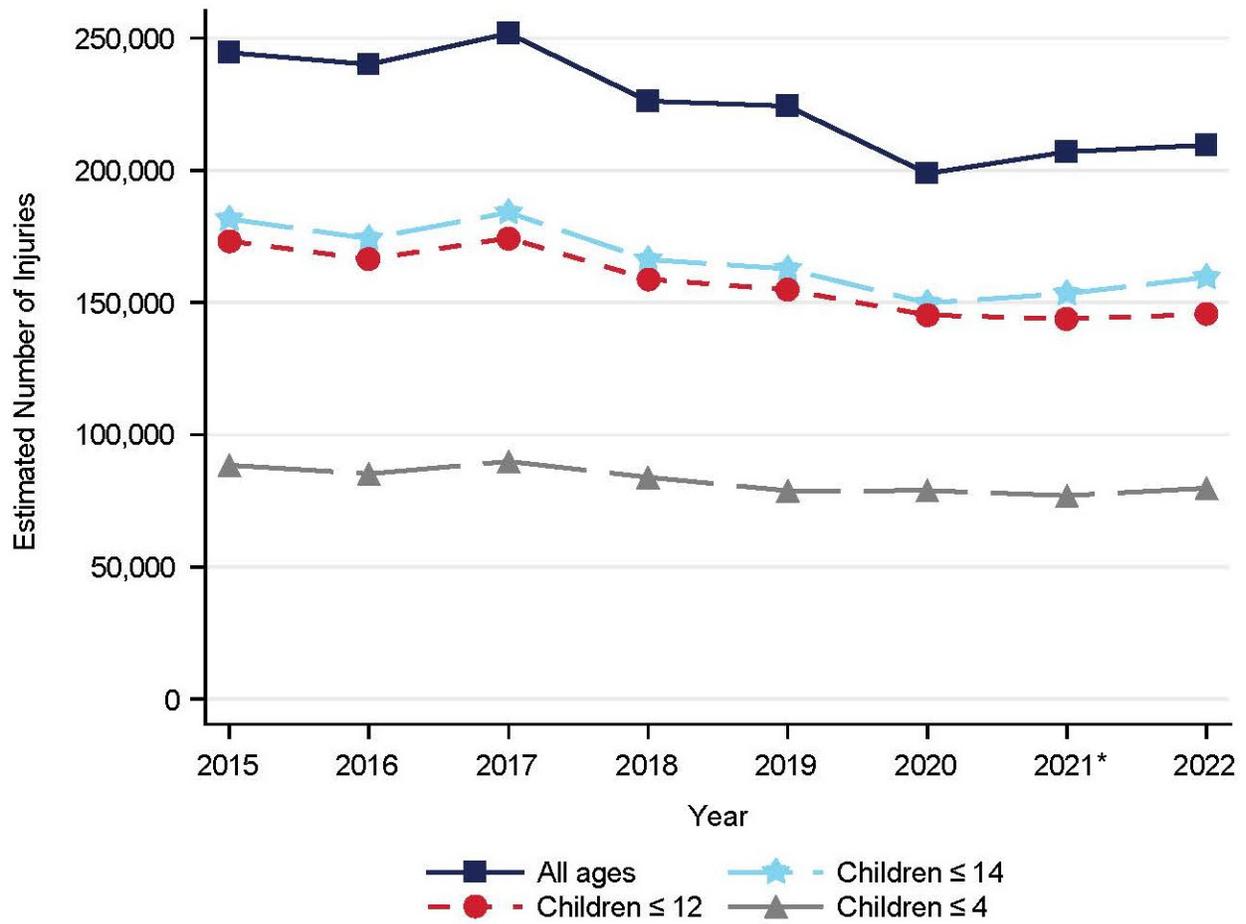
Source: NEISS, U.S. Consumer Product Safety Commission. Estimates are rounded to the nearest 100. Population estimates for 2015 to 2020 are from [Annual Estimates of the Resident Population by Single Year of Age and Sex: April 1, 2010 to July 1, 2020, U.S. Census Bureau, Population Division. Release Date: June 2021](#). Population estimates for 2021 are from [Monthly Postcensal Resident Population July 2021, U.S. Census Bureau, Population Division. Release Date: 2022](#). Population estimates for 2022 are from <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/national/asrh/nc-est2021-alldata-r-file06.csv>

*Coefficient of variation (CV) is a measure of the dispersion of the data as a ratio of the standard deviation to the injury estimate. The higher the CV, the larger the dispersion is. The population estimates are assumed to be constant, and therefore the CVs for the estimated injuries per 100,000 people are equivalent to the CVs for the injury estimates.

⁵ Injury estimates in this row were revised since the previous report that was published in 2022.

¹⁵ The p-values for the All Ages and 4 Years of Age or Younger groups were 0.07 and 0.37, respectively. The p-values for the 14 Years of Age or Younger group and 12 Years of Age or Younger group were 0.03 and 0.01, respectively.

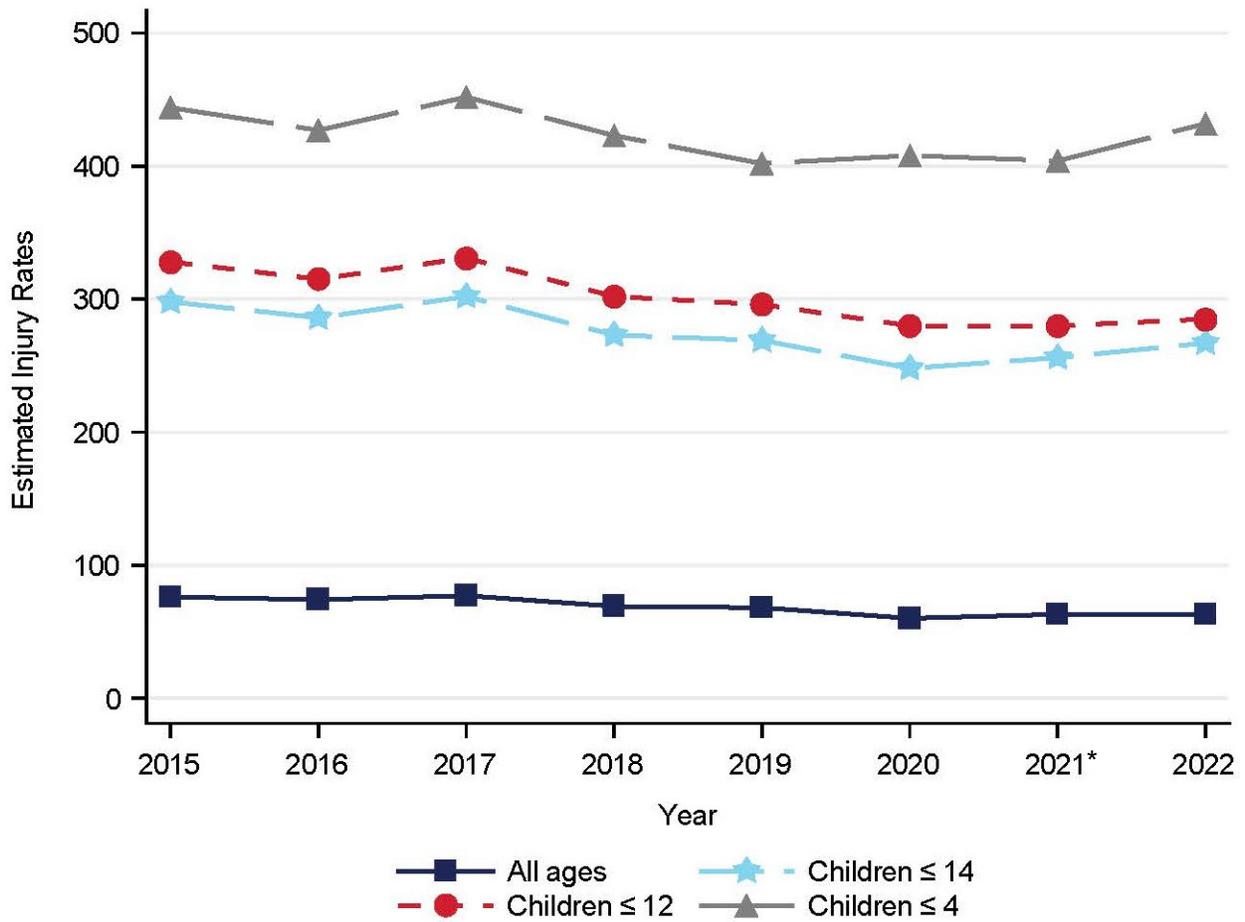
Figure 3: Toy-Related ED-Treated Injury Estimates for Different Age Groups, 2015–2022



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

* All 2021 estimates were revised since the previous report that was published in 2022.

Figure 4: Toy-Related ED-Treated Injury Rates (per 100,000 People) for Different Age Groups, 2015–2022



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

* All 2021 estimates were revised since the previous report that was published in 2022.

Appendix B

NEISS Product Codes for Toys

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	Non-Wheeled Riding Toys, Unpowered
1328	Wagons (Children's)
1329	Scooters, Unpowered (pre-2020)
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 (Non-projectile)
1390	Toy Guns, Not Specified
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)

Product Code	Toy Type
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)
5023	Scooters, Unpowered (2020 and later)
5024	Scooters, Unspecified (2020 and later)

NEISS 2020 Special Study

Prior to 2020, the NEISS product code 1329 (Scooters, Unpowered) was used to capture injuries related to unpowered (i.e., nonmotorized) riding scooters as well as unknown-if-powered scooters. While it was understood and accepted that some proportion of the injuries associated with this code was not unpowered riding scooters, historically, it had been used to identify the unpowered riding scooter toys in the annual Toy reports.

In 2020, two new NEISS product codes, 5023 (Scooters, Unpowered) and 5024 (Scooters, Unspecified), were implemented by the Division of Data Systems in the Directorate for Epidemiology (EPDS) to replace product code 1329. This allows staff to distinguish between the known unpowered scooters and unknown-if-powered scooters. During the same time, EPDS also launched a special study to follow up on all NEISS injuries that were related to product code 5022 (Scooters, Powered) and 5024 (Scooters, Unspecified). While the purpose of the special study was to gain more in-depth knowledge about injuries related to powered or e-scooters, the study also identified the proportion of injuries that were actually related to powered scooters, unpowered scooters, and other types of scooters. The study continued in 2021 and 2022. Based on these results, EPA staff was able to proportionally allocate the entire set of injuries under code 5024 (Scooters Unspecified) to unpowered/nonmotorized riding scooter toys for this analysis. In addition, the special study also identified any miscoded injury cases—such as an injury case originally coded under 5022 (Scooters, Powered) that was found to be an unpowered scooter during the follow-up interview with the patient. As such, the estimated injuries related to nonmotorized scooter toys in this annual report for 2020 through 2022 are based on both the product code 5023 for unpowered scooters as well as a proportion of the unspecified scooters and the miscoded powered scooters, as informed by the results of the special study.