

National Battery Ingestion Hotline

1-800-498-8666

July 1, 2024 to June 30, 2025 Annual Report

Rocky Mountain Poison Center

777 Bannock Street, Mail Code 0180

Denver, Colorado 80204

Prepared by:

Shireen Banerji, PharmD (Shireen.Banerji@rmpds.org)

RMPC Managing Director

Christopher Hoyte, MD (Christopher.Hoyte@ucdenver.edu)

September 30, 2025

RMPC Medical Director

For administrative questions, call 303-389-1392

EXECUTIVE SUMMARY

This report summarizes 1,567 human battery exposures reported to the Rocky Mountain Poison Center's National Battery Ingestion Hotline (NBIH) during the 12-month period from July 1, 2024, through June 30, 2025. Of this total, 934 of these cases specifically involved ingestion or suspicion of ingestion of one or more **disc** batteries. This is **down** by 9.4% from the previous contract year's total. See Figure 1 for case volume characterization during this 1-year period in the Appendix of Figures and Tables.

We compared the National Battery Ingestion Hotline disc battery ingestion data (Table 1) to the National Poison Data System (NPDS) (Table 2) over the same time period. Nationally, when 626 "confirmed non-ingestion" cases were removed from total case counts, there were a total of 2,705 human exposures involving ingestion of disc batteries: 1,690 (62%) specifically involving children 0-5 years of age. Similar to the NBIH data, the most common age in this range was 1-year old (n=591) followed by 2-year-old children (n=439). In the age range of 6-12 years there were 303 cases. For teenagers (13-19 years) there were 125 cases. For cases involving 20 to 59-year-old adults, there were 220 cases, and there were 274 (10% of all disc battery ingestion exposures) cases involving adults 60 years and older. Comparing these findings to the previous year (when "confirmed non-ingestion" cases are removed), disc battery ingestion nationally was **increased** overall by 5.2% (2,572 exposures in previous contract).

Regarding exposures to disc battery ingestion reported to NPDS nationally (Table 2), medical outcomes included 1,236 cases with no effects, 192 with minor effects, 47 with moderate effects, and 7 with major effects. There were no deaths reported to the poison center system nationally involving disc battery ingestion. Of note, 77% of cases were either referred to or originated from healthcare facilities (HCF).

In children aged 0-5 years, there were 1,690 disc battery ingestion exposures nationally (excluding 563 "confirmed non-ingestion" cases) reported to NPDS during this same time period (Table 3) which represents a 9.8% increase from the prior contract year in this age group. This age group represents 62% of total disc battery ingestions reported nationally. Medical outcomes included 778 with no effects, 86 with minor effects, 20 with moderate effects, and 5 with major effects. There were no deaths reported to the poison center system nationally involving disc battery ingestion in this age group. 80% of cases were either referred to or originated from healthcare facilities.

We observed a 9.4% decrease in human disc battery ingestions this past contract year from the prior year. Figure 2 shows the slight downward trend over the past 7-year period in total

human exposures to disc battery ingestion as well as major outcomes and fatalities. We suspect this difference continues to represent the general downward volume of calls to poison control centers paired with increased efforts at prevention campaigns to raise public awareness of the hazards of battery ingestion and possibly implementation of safer packaging and battery compartments in toys and devices. Like the prior year, Table 4 shows that a majority (58%) of exposures in the seventh contract year involved male patients. Again, the most common age associated with reported cases was one year old followed by two years of age (Table 1). This follows age of patients' trends from previous years and was the same for disc battery ingestion and all types of batteries and routes (Figure 3). Additionally, it appears as though case numbers drop in patients who are 40-59 years old but start to rise slightly for patients who are 60 years and over, with a bump in the 70–79-year age group. This is likely due to exposures involving disc batteries used to power hearing devices as well as the smaller sizes of those disc batteries being mistaken for pills or food. These types of “therapeutic errors” increased significantly (83%) from the previous contract year. Therapeutic errors represented 4.8% (n=45) of all disc battery confirmed or suspected ingestions, all occurring in the adult age range with 69% specifically in the 60 years old and above group. Of all disc battery confirmed or suspected ingestions, the disc battery type was unknown in 43% of cases (Figure 4). 26% of cases involved alkaline disc batteries while another 20% of cases involved zinc-air batteries and 10% involving lithium coin cell batteries. Only 1% of cases involved silver oxide disc batteries. Table 5 demonstrates the geographical location of the caller when known. The top 3 states with the highest number of callers were California (196), Texas (194), and Florida (162). This is not surprising as these three states are in the top 5 most populated states according to US Census numbers. There were also 34 calls that originated from Canada. There were a small number of calls that originated from other countries (Table 5). The most common caller site was the caller's own residence (70%) followed by healthcare facilities (14%) (Figure 5).

There were 934 cases where **disc battery ingestion** was initially confirmed or suspected. The most common medical outcome (Figure 6) associated with disc battery ingestion was no effect (n=560) followed by minor (n=54), moderate effect (n=10), and 1 case reported a major effect. Following-up for medical outcomes was part of standard case-handling, but for a variety of reasons was not always possible. Of the total cases, 78 were lost to follow-up. For medical outcomes stratified by disc battery type, see Figures 7 and 8 for different data visualization options. There were 207 cases where it was later confirmed that there was no exposure after all (battery was eventually located) and there were 24 cases where the caller reported signs and symptoms judged *unrelated* to battery exposure by the Specialist in Poison Information. Additionally, the breakdown of cumulative exposures to disc battery by types and medical outcomes are shown in Figures 9 and 10 that start from Contract Year 1 (July 1, 2018) to the end of Contract Year 7 (June 30, 2025).

A total of 1,567 human exposures to batteries of *any type* and *any route* were reported to NBIH during the seventh contract year. Disc batteries were the most common battery type involved in human exposures (n=973). 934 exposures involved actual disc battery exposure by mouth, 246 were later determined to be confirmed non-exposures, 97 cases involved dermal exposure, 22 were inhalational or nasal exposures, 1 involved otic insertion, and 1 rectal exposure. The percentage of cylindrical alkaline battery exposure cases from total human battery exposure cases reported to the NBIH was 31% (n=485), which is 42% less than the previous contract year. Other battery types involved in human exposures aside from disc and cylindrical batteries were 9-volt batteries, automotive batteries, and batteries not otherwise specified. When the source of the battery was known (Figure 11), hearing aids (n=196) were the most common devices associated with human disc battery exposures. Of note, 281 cases of disc battery ingestion were associated with cases where the devices were unknown. Disc battery access from games and toys were frequently involved in cases of disc battery ingestion (n=159). The most common size of disc batteries associated with human exposures, when known, were batteries under 10 mm (n=278), 10-14 mm (n=193) and ≥ 20 mm (n=111), and 15-19 mm (n=4). Unfortunately, for 342 of cases, the battery size was unknown or not able to be determined (Figure 12).

Similar to our findings from previous reports, the ingestion of disc batteries was previously thought to be a public health issue regarding children (0-5 years). While case counts for patients greater than 60 years of age are fewer than previous years, the National Battery Ingestion Hotline data demonstrate that accidental disc battery ingestion is not just a pediatric concern. Accidental disc battery ingestion can affect all ages; young, elderly, and everywhere in the middle. Preventative measures such as child-resistant packaging, locked battery compartments, dyes, and bittering agents are promising advances in disc battery safety but cannot eliminate the risk of accidental ingestion. We are hopeful that the incidence of disc battery ingestion continues to decrease as preventative efforts increase. If ingestion does occur, the goal is immediate medical attention in hopes of preventing serious or fatal outcomes. We will continue to actively support harm reduction measures and initiatives and campaigns that prevent accidental exposures to disc batteries.

Annual reports for prior years after 2018 can be found at: <https://www.rmpds.org/statistics-and-data>. For data prior to July 1, 2018, statistics can be found at www.poison.org/battery/stats.asp. Cases may be reported 24/7/365 to the National Battery Ingestion Hotline at 1-800-498-8666 for immediate and expert medical advice.

Acknowledgements: Lynn Antony and Danielle Grossnickle for their administrative assistance in the preparation of this report.

Appendix of Tables and Figures

Figure 1. National Battery Ingestion Hotline Case Volume Characterization, July 2024 to June 2025

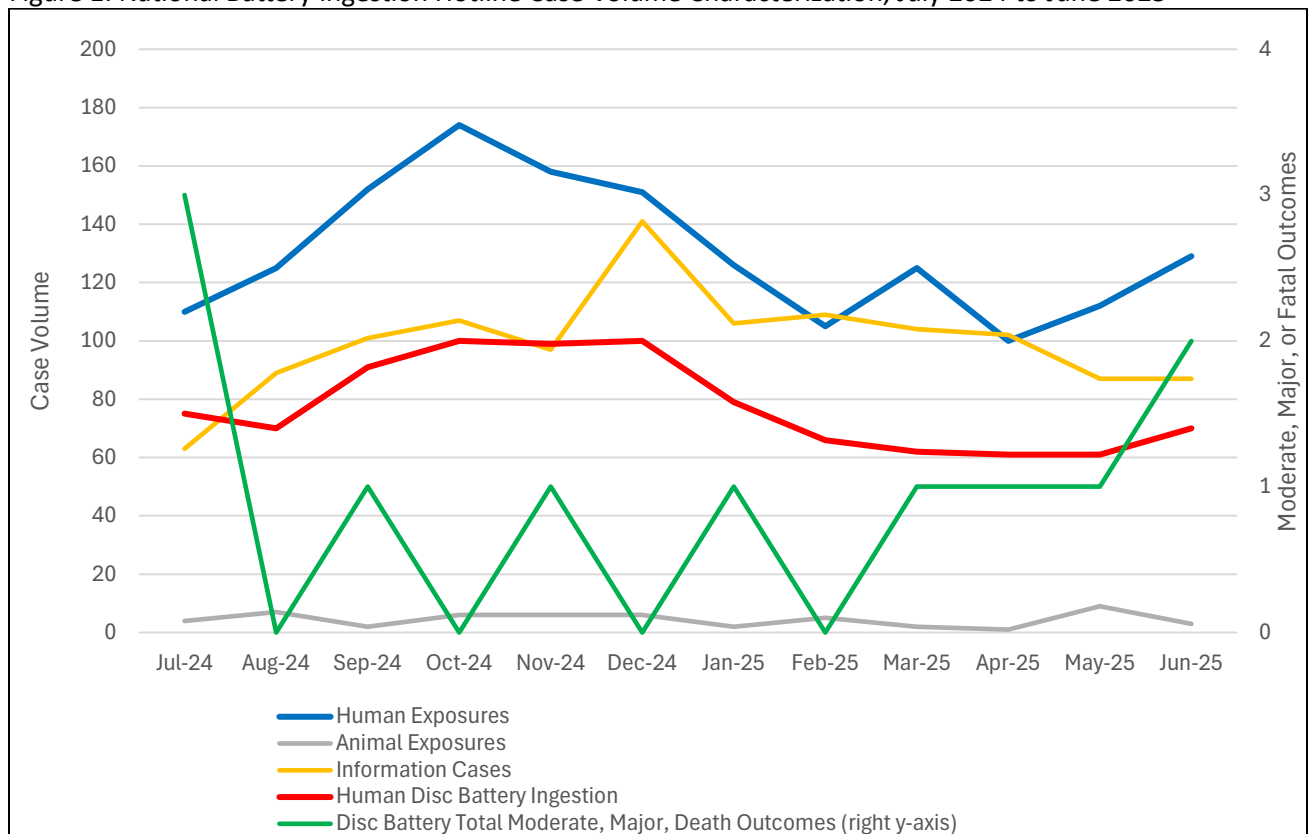


Table 1. National Battery Ingestion Hotline Human Battery Exposures by Age Range and Gender, July 2024 to June 2025

Age	Female	Male	Unknown gender	All routes, all types of batteries	Disc Battery Ingestion Cases
<1 year	40	41	0	81	38
1 year	132	169	0	301	201
2 years	83	152	0	235	152
3 years	45	75	2	122	73
4 years	42	44	0	86	48
5 years	15	45	0	60	38
Unknown age but ≤ 5 years	0	3	1	4	4
6 to 12 years	36	112	0	148	88
13 to 19 years	42	35	1	78	37
Unknown Child (≤ 19 years)	3	0	2	5	4
20-29 years	24	44	0	68	12
30-39 years	33	33	0	66	22
40-49 years	14	19	0	33	15
50-59 years	17	8	0	25	14
60-69 years	8	16	0	24	19
70-79 years	37	28	0	65	56
80-89 years	23	27	0	50	48
>= 90 years	12	14	1	27	27
Unknown age but (≥20 years)	30	28	1	59	25
Unknown Age	10	14	6	30	13
Total:	646	907	14	1567	934

Table 2. National Poison Data System, Human Disc Battery Ingestion Exposures and Outcomes, July 2024 to June 2025, All Ages

Total Number of Ingestions	Age 0-5y	Age 6-12y	Age 13-19y	Age 20-59y	Age > 60y	% Treated or referred to HCF	No Effect	Minor Effect	Moderate Effect	Major Effect	Death
2,705 (excludes 626 'confirmed non-exposures')	1690	303	125	220	274	77	1236	192	47	7	0

HCF = healthcare facility

Data from America's Poison Center's National Poison Data System, www.npds.us [accessed on 9/10/2025].

Table 3. National Poison Data System, Human Disc Battery Ingestion Exposures and Outcomes, July 2024 to June 2025, Age 0 to 5 years

Number of Ingestions	% Treated or referred to HCF	No Effect	Minor	Moderate	Major	Death
1,690 (excludes 563 'confirmed nonexposures')	80	778	86	20	5	0

HCF = healthcare facility

Data from America's Poison Center's National Poison Data System, www.npds.us [accessed on 9/10/2025].

Figure 2. 6-Year Trend of National Battery Ingestion Hotline, July 2018 to June 2025

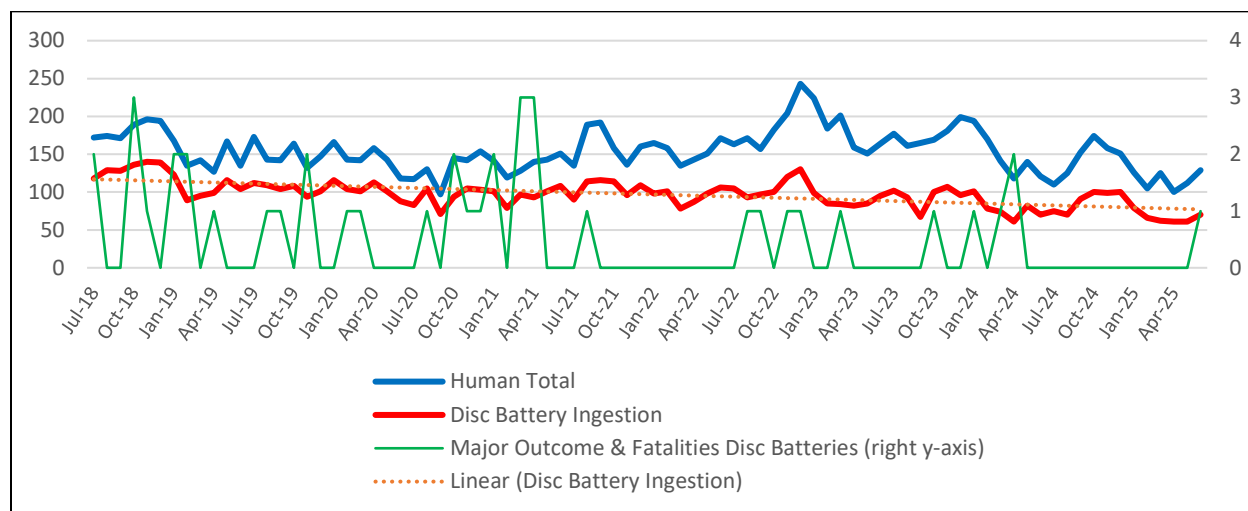


Table 4. Battery Hotline Human Exposures by Gender, July 2024 to June 2025

Gender	Number of Exposures
Male	907
Female	646
Unknown	14

Figure 3. Human Battery Exposure by Age Range and Type Reported to the National Battery Ingestion Hotline, July 2024 to June 2025

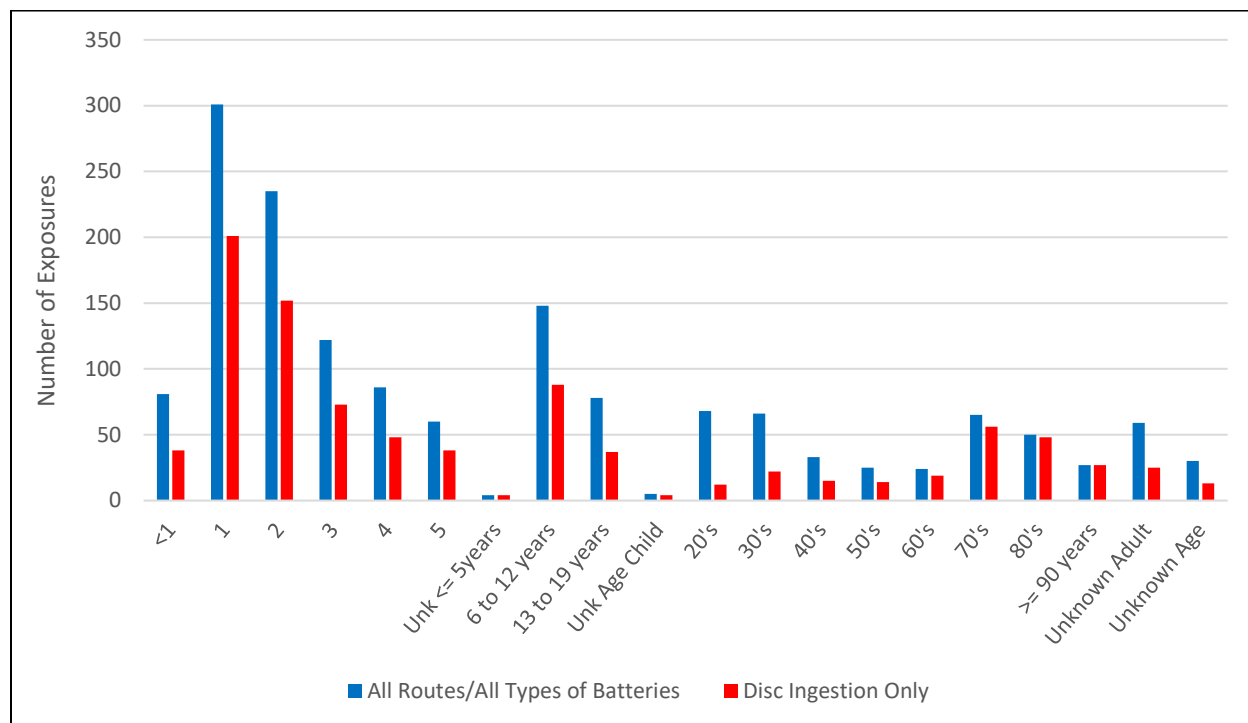


Figure 4. Disc Battery Ingestion by Types Reported to the National Battery Ingestion Hotline, July 2024 to June 2025

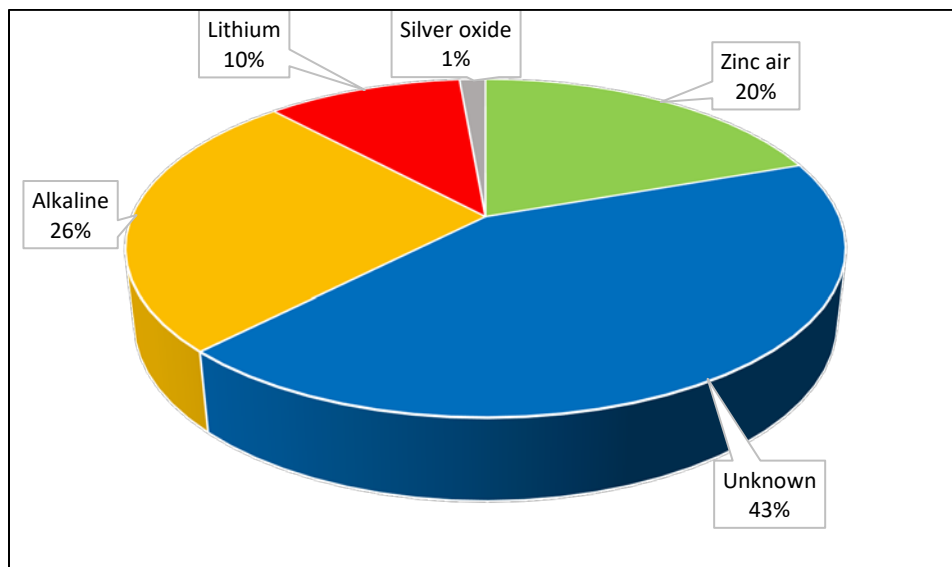


Table 5. Geographical Distribution of Caller by State, Country as Reported to the National Battery Ingestion Hotline, July 2024 to June 2025

State	Number of Cases	State	Number of Cases
Alabama	39	New Jersey	59
Alaska	2	New Mexico	14
Arizona	63	New York	122
Arkansas	27	North Carolina	79
California	196	North Dakota	5
Colorado	50	Ohio	109
Connecticut	20	Oklahoma	25
Washington, D.C.	7	Oregon	30
Delaware	12	Pennsylvania	113
Florida	162	Puerto Rico	3
Georgia	70	Rhode Island	4
Hawaii	12	South Carolina	38
Idaho	18	South Dakota	4
Illinois	76	Tennessee	70
Indiana	56	Texas	194
Iowa	21	Unknown State	187
Kansas	20	Utah	37
Kentucky	43	Vermont	7
Louisiana	35	Virginia	58
Maine	10	Washington	53
Maryland	51	West Virginia	21
Massachusetts	43	Wisconsin	57
Michigan	76	Wyoming	6
Minnesota	54	Country	Number of Cases
Mississippi	21	Canada	34
Missouri	41	France	1
Montana	16	Italy	1
Nebraska	18	South Korea	1
Nevada	23	Brazil	1
New Hampshire	6		

Figure 5. Caller Site Location, Reported to the National Battery Ingestion Hotline, July 2024 to June 2025

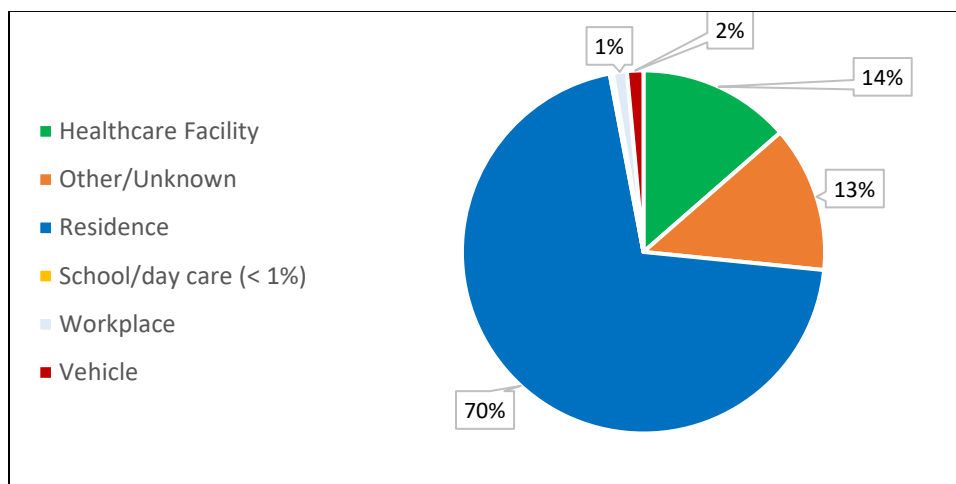


Figure 6. Medical Outcomes for Disc Battery Ingestion Cases Reported to the National Battery Ingestion Hotline, July 2024 to June 2025.

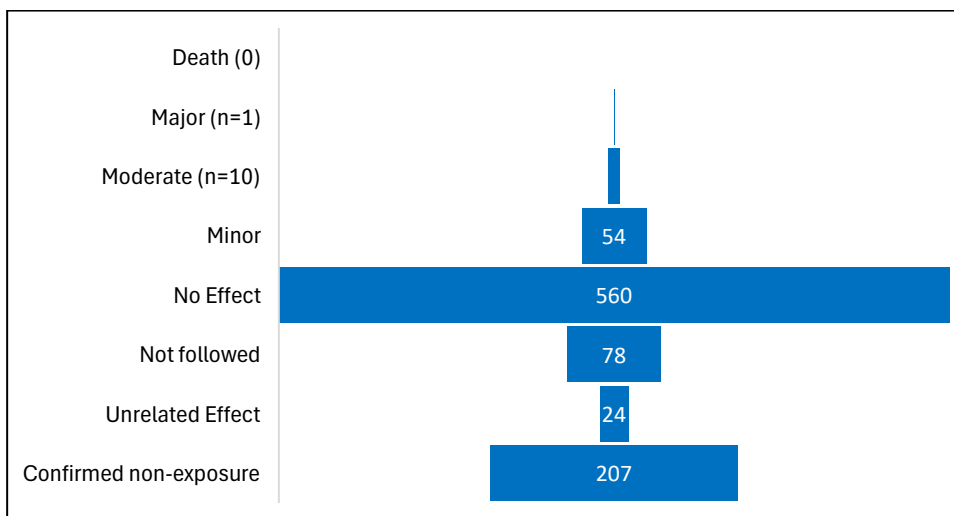


Figure 7. Medical Outcomes by Battery Type for Disc Battery Ingestion Cases Reported to the National Battery Ingestion Hotline, July 2024 to June 2025.

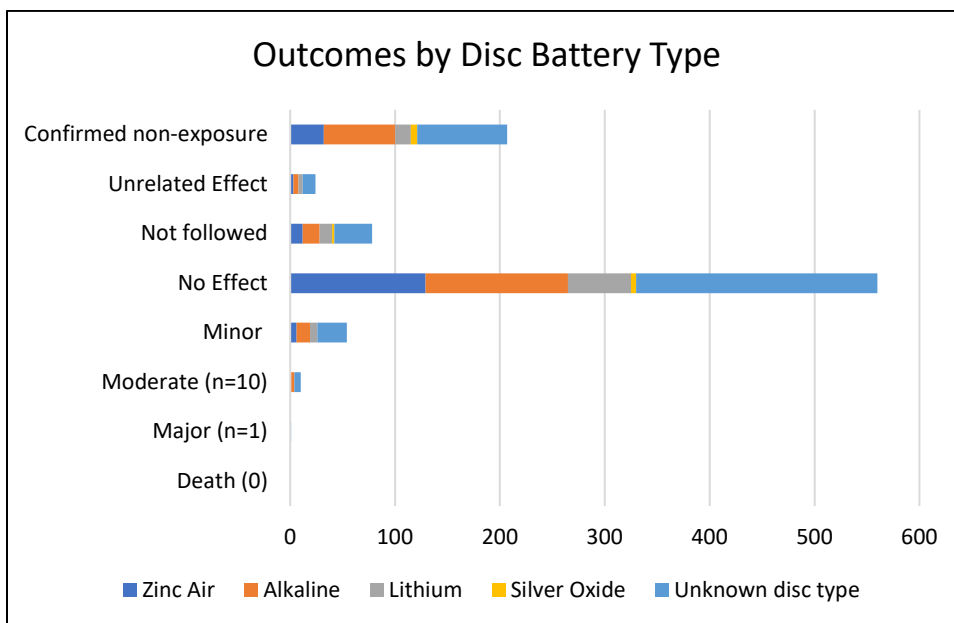


Figure 8: Medical Outcomes by Battery Type for Disc Battery Ingestion Cases Reported to the National Battery Ingestion Hotline, July 2024 to June 2025.

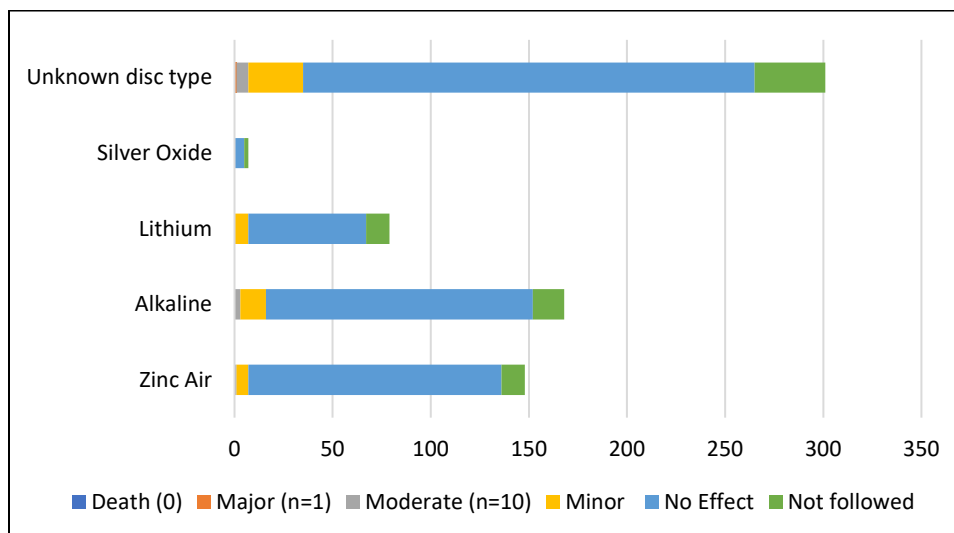


Figure 9: **Cumulative** Human Exposures to Disc Batteries by Year and Type, Reported to the National Battery Ingestion Hotline, July 2018 to June 2025.

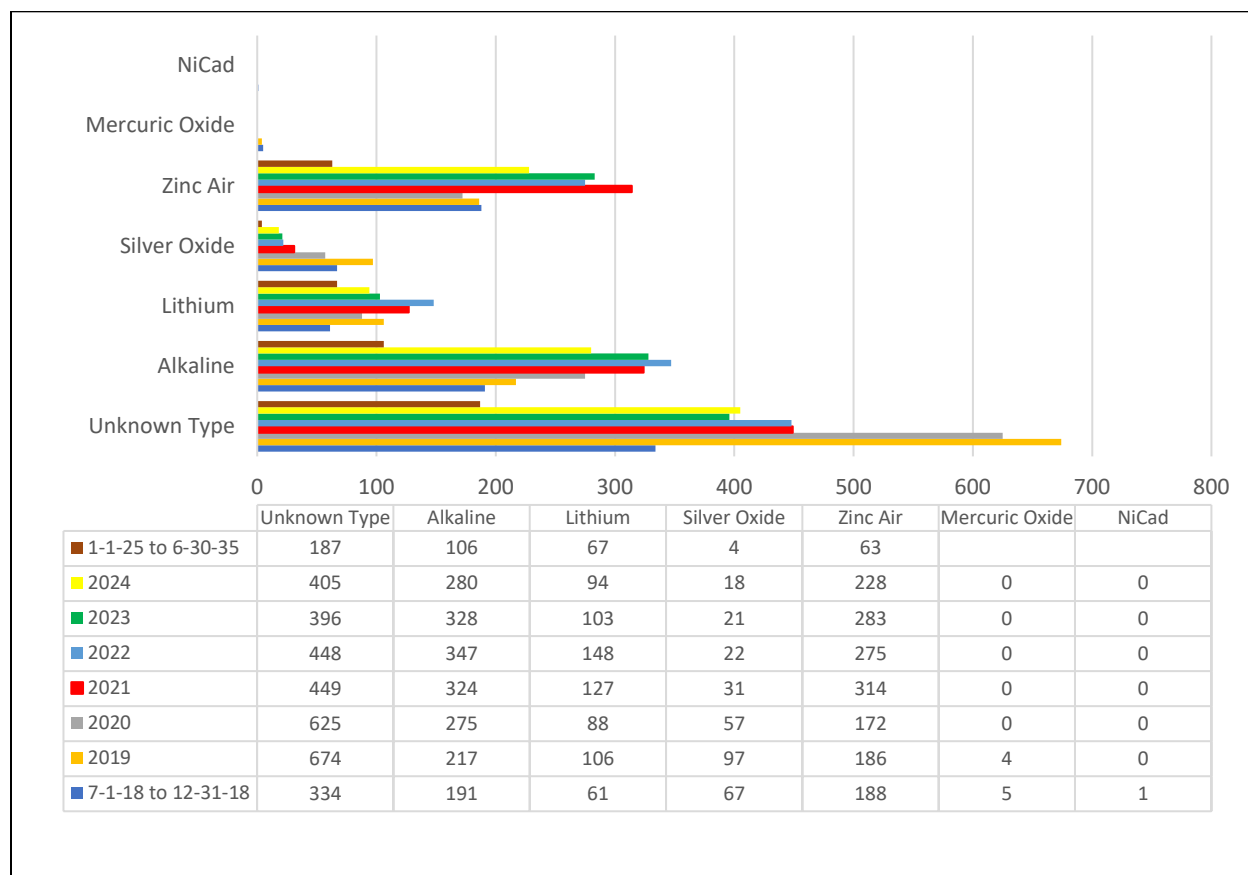


Figure 10: **Cumulative** Medical Outcomes by Disc Battery Type Reported to the National Battery Ingestion Hotline, July 2018 to June 2025.

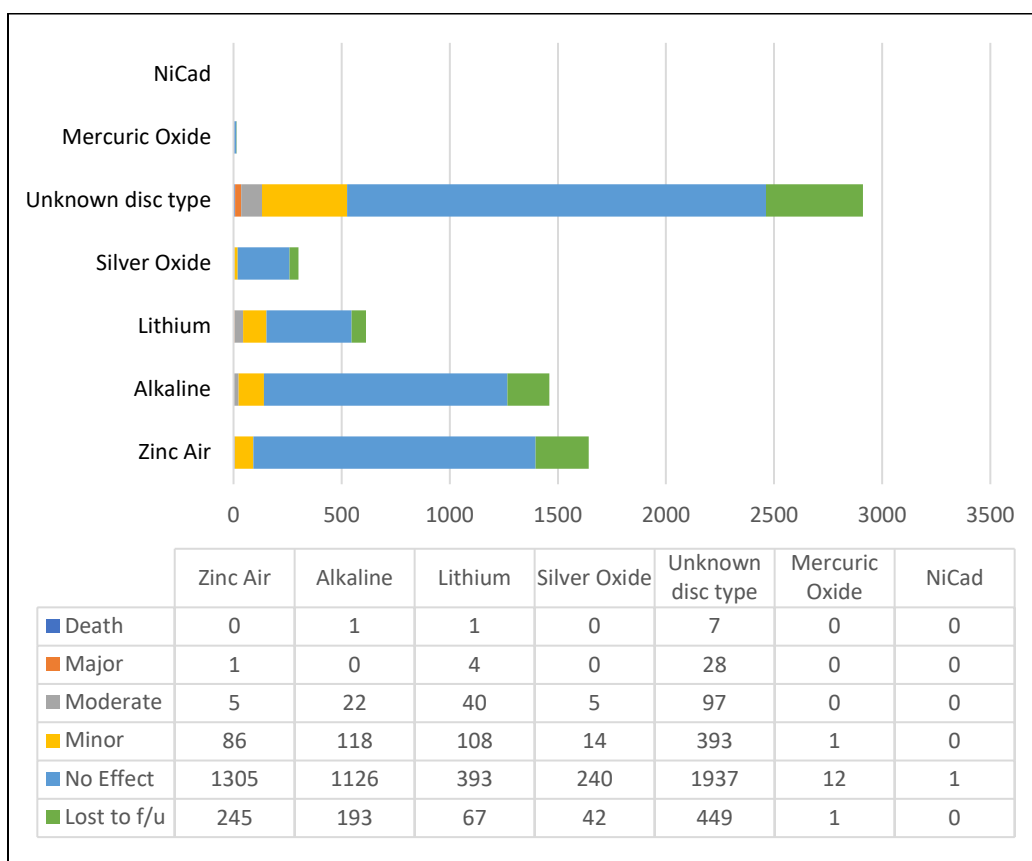


Figure 11. Battery Source by Device, when known, reported to the National Battery Ingestion Line, July 2024 to June 2025.

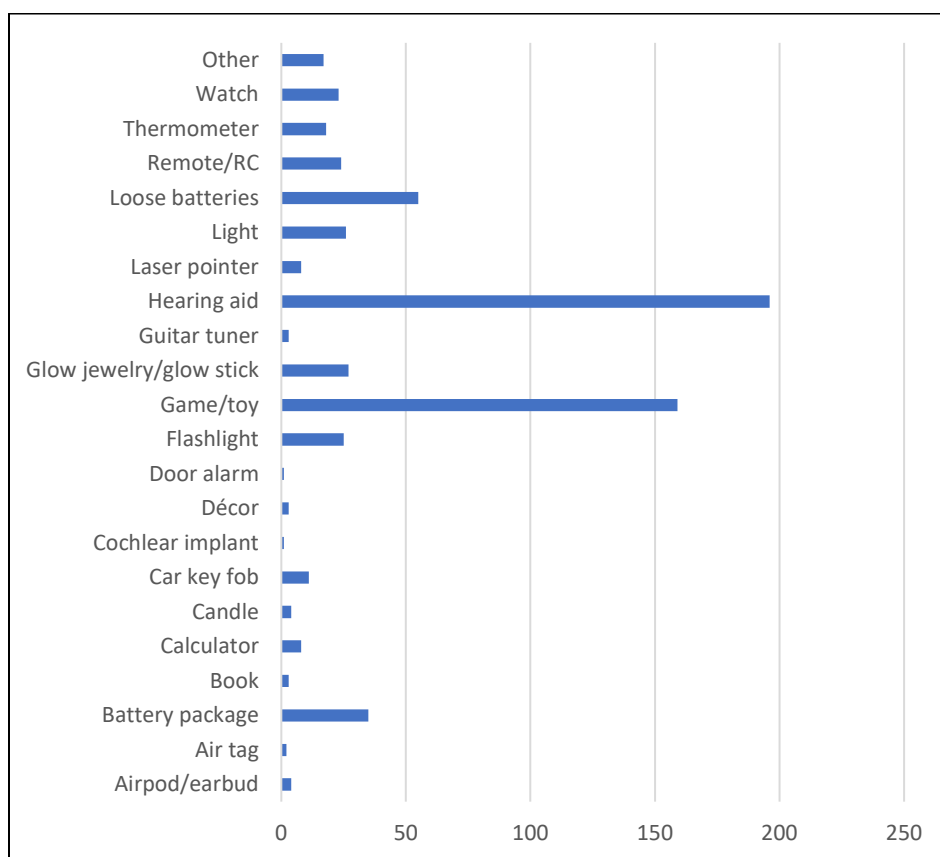
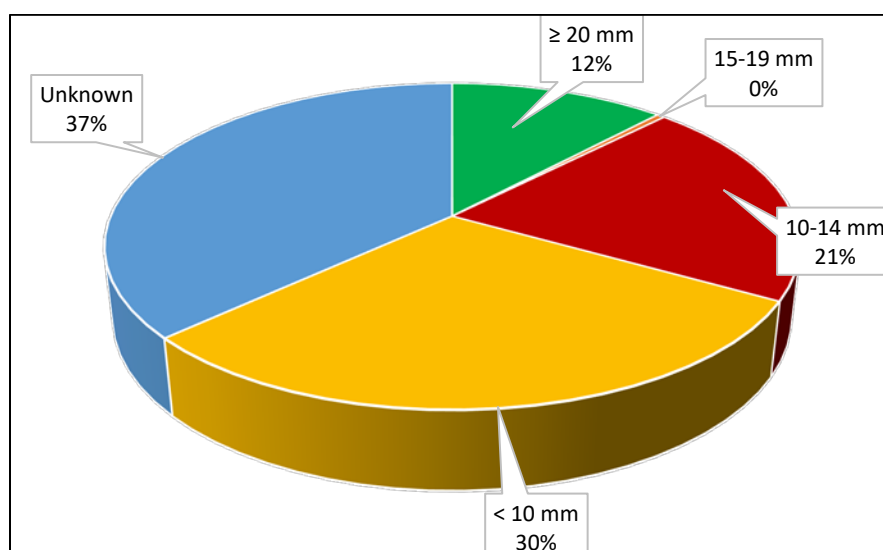


Figure 12. Disc Battery Size, when known, reported to the National Battery Ingestion Line, July 2024 to June 2025.



National Poison Data System (NPDS) Definitions
(from version 4.5.5 of the NPDS Coding Users' Manual)

Medical Outcomes:

1. **No effect:** The patient developed no symptoms as a result of the exposure.
2. **Minor effect:** The patient exhibited some symptoms as a result of the exposure, but they were minimally bothersome to the patient. The symptoms usually resolve rapidly and often involve skin or mucous membrane manifestations. The patient has returned to a pre-exposure state of well-being and has no residual disability or disfigurement.
3. **Moderate effect:** The patient exhibited symptoms as a result of the exposure (includes complications of the exposure) which are more pronounced, more prolonged or more of a systemic nature than minor symptoms. Usually some form of treatment is or would have been indicated. Symptoms were not life-threatening and the patient has returned to a pre-exposure state of well-being with no residual disability or disfigurement.
4. **Major effect:** The patient has exhibited symptoms as a result of the exposure (includes complications of the exposure) which were life-threatening or resulted in significant residual disability or disfigurement.
5. **Death:** The death occurred as a direct result of the exposure, or a complication directly related to the exposure.
6. **Unrelated effect:** Based upon all the information available the exposure was probably not responsible for the effect(s).
7. **Confirmed nonexposure:** There is reliable and objective evidence that the exposure never occurred and that any symptoms exhibited by the patient were not related to the reported exposure.
8. **Not followed:** medical outcome not determined as there was no ability to follow-up with the patient or caregiver.