

Released under FOI

BRANZ Aggregate Data Request – Summary

Short Title of Request: Lithium-ion battery burns

Principal Requestor: Sam O'Connor (Australian Competition and Consumer Commission)

Prepared By: [REDACTED]

Date Prepared: September 21, 2022

Request Details: Acute admissions meeting BRANZ inclusion criteria that occurred between January 1, 2017 and December 31, 2021 where the injury was caused by or, or likely to be caused by lithium-ion batteries or products containing lithium-ion batteries. Potential admissions were flagged using the product categories and suggested search terms listed in Table 1. Note that variations of each term were used to identify potential cases (e.g., iPhone, iphone, iPhone, etc.). Two members of the BRANZ team confirmed flagged cases involved or were related to lithium-ion batteries.

Table 1: Search terms used to identify potential admissions

Product category	Suggested search terms
Lithium-ion battery	<ul style="list-style-type: none"> • <i>Lithium battery</i> • <i>Lithium-ion battery</i> • <i>Li-ion battery</i> • <i>LiB</i> • <i>Lithium</i>
Computers and accessories	<ul style="list-style-type: none"> • <i>laptop</i> • <i>computer</i> • <i>PC</i> • <i>chargers</i> • <i>notebook computer</i> • <i>hard drive</i> • <i>power bank</i>
Handheld electronic devices	<ul style="list-style-type: none"> • <i>iPad</i> • <i>tablet</i> • <i>Kindle</i> • <i>eReader</i>
Mobile phones	<ul style="list-style-type: none"> • <i>iPhone</i> • <i>Android</i> • <i>Smartphone</i> • <i>Mobile phone</i> • <i>Cell phone</i>
Electric vehicles	<ul style="list-style-type: none"> • <i>e-bike</i> • <i>e-scooter</i> • <i>electric bike</i> • <i>electric scooter</i> • <i>hoverboard</i> • <i>self-balancing scooters</i>
Power tools	<ul style="list-style-type: none"> • <i>drill</i> • <i>sander</i> • <i>grinder</i> • <i>power tool</i>

Released under FOI

Household products	<ul style="list-style-type: none"> ▪ <i>vacuum cleaner</i> • <i>vacuum</i> • <i>dust buster</i> • <i>robot vacuum</i> • <i>electric mop</i> • <i>digital cameras</i> • <i>camping equipment</i>
Smart wearables	<ul style="list-style-type: none"> • <i>apple watch</i> • <i>fit bit</i> • <i>garmin</i> • <i>ear pods</i> • <i>air pods</i> • <i>ear phones</i> • <i>head phones</i> • <i>smart watch</i>
Residential solar storage	<ul style="list-style-type: none"> • <i>solar battery</i> • <i>solar storage</i> • <i>energy storage</i> • <i>residential solar storage system</i>
eCigarettes	<ul style="list-style-type: none"> • <i>e-cigarette</i> • <i>vape</i>

Results: Of the 17,102 admissions recorded during the study timeframe, 21 (0.1%) involved or related to lithium-ion batteries. The breakdown of lithium-ion battery burns by product category are presented in Table 2.

Lithium-ion battery	< 5
Computers and accessories	< 5
Handheld electronic devices	< 5
Mobile phones	6 (24%)
Electric vehicles	< 5
Power tools	0
Household products	0
Smart wearables	< 5
Residential solar storage	0
eCigarettes	9 (36%)

Note: Burns could be belong to more than one product category, depending on the event.

Further details relating to lithium-ion battery burns are displayed in Table 3.

Released under FOI

N	21
Year of injury	
2017	< 5
2018	< 5
2019	5 (23.8%)
2020	5 (23.8%)
2021	7 (33.3%)
Age, mean (SD) years	28.5 (18.5)
Male	19 (90.5%)
Cause of burn	
Flame	14 (66.7%)
Other cause	7 (33.3%)
Activity when injury occurred	
Leisure activity or playing	11 (55.0%)
Working (paid or unpaid)	< 5
Other specified activity	5 (25.0%)
Place where injury occurred	
Home or usual residence	13 (68.4%)
Other specified place	6 (31.6%)
Unintentional injury	20 (95.2%)
TBSA burned, median (IQR) %	2.4 (0.7, 5.5)
Underwent burn wound procedure in theatre	16 (76.2%)
ICU admission	< 5
Discharge disposition	19 (95.0%)

Data presented as frequency (percentage) unless otherwise specified. Excludes missing data.

ICU = intensive care unit, IQR = interquartile range; SD = standard deviation; TBSA = total body surface area.

The body regions affected by lithium-ion battery burns are presented in Figure 1.

Released under FOI

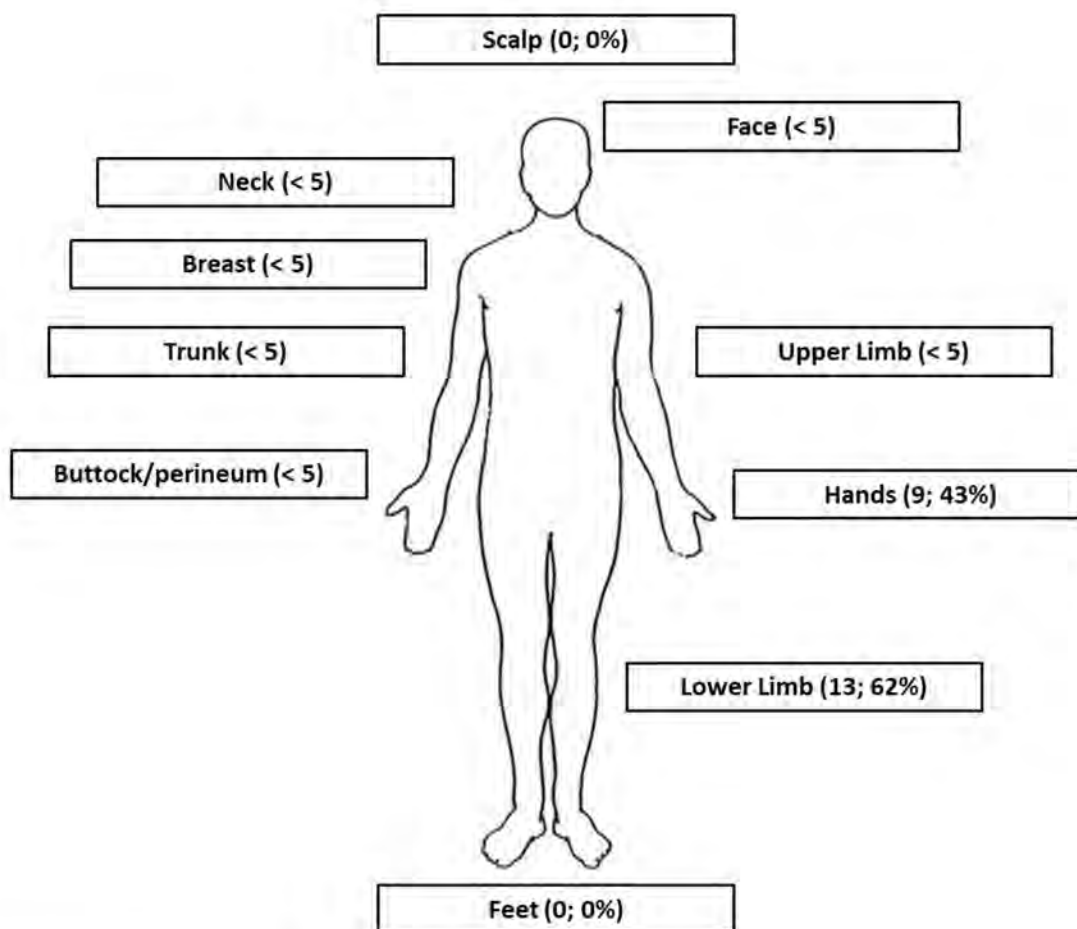


Figure 1: Body regions affected by lithium-ion battery burns. Each patient could have more than one body area affected.