

Collaborative Response to the ACCC Button Battery Issues Paper:

Thank you for the opportunity to comment on the Issues Paper.

Button batteries are everywhere and in almost everything. Fuelled by the rise in cheap manufacturing and LED technology, they power a myriad of common household items, from the essential to the inane.

They seem innocuous; you can hold them in your hand. But when swallowed, they trigger a caustic injury that causes irreversible tissue damage with catastrophic effect. They are landmines in our lounge rooms.

In Australia, more than one child a month sustains a severe injury due to a button battery (unpublished data provided below), with young children most likely to be severely injured. There are both immediate and long term physical, economic and emotional costs.

Preventing unintended access to button batteries by young children requires multi-faceted strategies with all players; consumers, government and industry; stepping up to the plate. Voluntary industry measures to make products and packaging that contain button batteries child-resistant have had limited impact on battery access to date.

Button batteries can make their way into households without being bought, with no warning, no labelling and no accountability.

Button batteries and the products they power are the perfect product safety storm; manufactured in a globally complex market with suppliers who may be completely remote from the product design and brand and where the final product is managed (if at all) under several different regulatory frameworks; ACCC, TGA, electrical safety regulations.

In short, they are everywhere and there are too many opportunities for duck-shoving the responsibility with little action despite knowing about the issue for 40 years.

It is time to act.

Comments on the Issues paper:

The paper is well researched and presented, but a number of issues/ misconceptions need to be addressed:

Risk associated with battery exposure is largely determined by the following inter-related battery factors (presented in order of risk):

- Charge: more than 1.2 volts is required to hydrolyse water to produce NaOH. Batteries starting at 3V cause more rapid tissue destruction when new and have sufficient charge at end of functional life to still cause tissue destruction.
- Time from exposure to recognition and then to removal. Occult ingestions are the most lethal exposure. Time between exposure and recognition varies from minutes to months. In practice there may be also a considerable time lag between recognition and removal due to geographic and logistic factors.
- Size: determines both the nature of the injury (insertion or ingestion) and likelihood of lodgement (particularly oesophageal lodgement which carries the highest risk of fatality). Whilst larger batteries are more likely to lodge in the oesophagus, there are reports of smaller (5-15mm) causing death or severe injuries due to oesophageal lodgement: <https://www.poison.org/battery/fatalcases>
<https://www.poison.org/battery/severecases>

Smaller batteries are more usually implicated in insertions and as such have been reported to cause permanent hearing loss, facial nerve palsies and nasal deformities. Smaller batteries, although less likely to result in death, are responsible for a sizable proportion of calls to poison centres, with hearing aid and watch batteries representing almost 1/3 of calls in a recent Australian study:

<https://www.ncbi.nlm.nih.gov/pubmed/30663910>

- Age: of the battery determines the charge (see above). Typically, 20mm Lithium batteries have a long shelf life (10 years).
- Chemistry: is associated with battery size, charge and product use. Whilst alkaline and mercury leakage has been described, battery chemistry appears to be less important than size and charge in terms of tissue destruction and clinical scenario. Zinc Air batteries require oxygen to generate charge and have been touted as 'safer'. Predominantly used in the hearing industry, their smaller size predisposes them to be inserted into the ear and nose, where oxygen is available and tissue destruction ensues. It is unclear whether Zinc Air batteries pose a significant risk of tissue

destruction when lodged for prolonged periods in the oesophagus, which is not an anoxic environment.

Therefore, in point 4.2:

Page 8: 'Larger batteries may lodge in a child's oesophagus': There have been reports of small medium and large batteries lodging in the oesophagus causing significant tissue destruction.

Page 9: 'Zinc-air batteries are most commonly used in hearing aids and while they are represented in paediatric exposures, they are not implicated in significant injuries'.

The data are largely silent on whether Zinc Air batteries are or are not implicated. The National Battery Ingestion Hotline collates ingestion data only. It is challenging to capture battery size, chemistry and product information, so correlating injury with chemistry, particularly when insertion related injury data is not systematically collated, is challenging. Anecdotally, zinc air chemistry is used for the vast majority of small (5mm) hearing aid batteries which are frequently implicated in nose/ ear insertion. There are many papers describing damage from insertion of small batteries into the ear or nose, but none that correlate product and battery chemistry with injury outcome.

Industry engagement page 13:

Although it was encouraging to have undertaking from industry in relation to reducing unintended child access to button batteries, the process was short-sighted in that consultation did not include **all suppliers** of batteries/ battery operated products.

'Industry' is not one group, but a myriad of different organisations often with global market bases and international production chains, where the link between product design and end user is tenuous and regulation/ oversight complex and siloed.

Button batteries are not only acquired as products in their own right or as part of a product that they are intended to drive, but as components to construction kits, science experiments and costume design; 'wearable tech' being one example.

Therefore, initial industry engagement did not include all relevant industry groups and did not address:

- Notifying customers that the product contained a button battery
- Batteries of all chemistry and size (focussed on large lithium batteries)
- Durability of product
- Online sales
- Promotional distribution of products without an identifiable 'point of sale' or intent for acquisition
- An identifiable remedy for exposure to what is essentially a poison (Poisons Information number)
- Products sold as construction elements
- Exposure through renting premises; Hotels, AirBnBs

The section under Retailers on page 14 describes 'child-proof' packaging, which is a unicorn (a mythical beast). Perhaps this is written in error.

It is worth noting that in relation to the 2 Australian deaths related to button batteries; Summer Steer in 2013 and Isabella Rees in 2015, that the product source of the battery in both cases was never identified. However, the battery that killed Isabella Rees was identified by the Victorian Coroner as an Energizer battery.

This highlights the insidious nature of the problem.

Summer and Isabella's mothers recently (September 10-11, 2019) accompanied Choice to advocate for the following button battery safety measures with ministers at Parliament House:

- A horizontal mandatory standard requiring all products and packaging that contain button batteries to be child-resistant and durable
- Adequate labelling (point of sale; including online; packaging and on product) to advise consumers of the risk associated with button batteries
- Adequate Poisoning advice to ensure rapid and appropriate action in the event of exposure

They shared a suite at a newly constructed and fitted out Canberra hotel. Bathroom scales were provided for guest convenience and placed at knee height on an open shelf under the bathroom sink. The scales had a simple 'flick open' compartment containing a button battery.

This is an endemic problem, where battery operated products, often of poor quality, durability and design, are being procured and distributed to and by third parties. In many instances, acquiring a button battery is not a conscious decision, let alone an informed one.

The following organisations have been known to distribute/ use/ recommend or give away such products (specific examples can be provided on request):

- Organisations that are fundraising; P and Cs, charities, faith groups (Carols by Candlelight)
- Organisations that promote their services through novelty products that are given away; Commonwealth Bank, Alinta Energy, Ipswich City Council
- Organisations that are promoting safety messages; St John's Ambulance, Royal Automobile Association (RAA), City of Gold Coast
- Organisations looking for a novel product to boost sales; Queensland Performing Arts Centre, Event Cinemas
- Organisations using small items as a giveaway; Subaru, Sushi Train
- Organisations using disc batteries for educational purposes; Queensland University of Technology (QUT), CSIRO

This list is not exhaustive and organisations identified have not been singled out for any purpose other than to illustrate the breadth and depth of the issue. The decision, that many otherwise reputable organisations can make to use such products (sometimes even to reinforce safety messages) can be considered ill-conceived and ill-considered, but it is not illegal. And this is the point!

In general, such products are an unnecessary, unwarranted and unwanted risk.

Many of these products have been recalled and can be found here:

https://www.productsafety.gov.au/recalls/browse-all-recalls?search=button+battery&sort_by=accc_solr_date&items_per_page=25

Figure 5, page 17:

It is unclear where the information for figure 5 is derived from and would be important to point out that it seems to be a mixture of Poisons Information Centre calls and Emergency Department presentations.

Page 18:

Whilst it is true to say that both Victorian and Queensland Injury Surveillance data have tracked the rising number of emergency department presentations related to button batteries, the second statement (highlighted below) is not true.

Long term data from Victoria (collected by the Victorian Injury Surveillance Unit) (figure 6) and Queensland (collected by the Queensland Injury Surveillance Unit) (figure 7) indicates that the numbers of reported button battery exposures in children under the age of five have been increasing.³¹ However, as the awareness of the button battery hazard has grown, there has also been improvement in the capture of data on button battery related exposures and injuries during this period.

What is likely to be true (but unmeasured) is that increased community/ consumer awareness has resulted in more calls to poisons services and presentations to Emergency departments for suspected button battery exposures. QISU has described that an increasing proportion of presentations are associated with negative findings on X-ray; 'battery exposure suspected but not found'. However, this does not equate to an 'improvement in the capture of data'. In fact, the QISU report to the ACCC articulated a variety of systems issues (in particular the rollout of the Cerner Firstnet system to Queensland Emergency departments) that have significantly impaired data capture.

Figure 6; page 18:

2012 is omitted in the graph labels. Is the data representing non-contiguous year blocks?

Figure 7, page 18:

It is not clear when and where the QISU data table was sourced. The title and the label do not match with respect to the time period. QISU provided a series of graphs in the most recent report dated June 2019.

It seems the ACCC have extracted only confirmed battery ingestions and insertions from a graph representing all presentations in children aged 0-4 years (not 0-5 years), then incorrectly labelled the y axis as 'average exposures per year' when it is in fact the actual number of presentations where battery ingestion/ insertion has been radiologically confirmed.

QISU data is collected at **participating emergency departments only** and rollout of new IT systems has seen hospital participation fall. Therefore, the numbers shown in the graph represent **less than a quarter of potential cases across the state and trend data needs to be interpreted in light of reduced hospital participation.**

Figure 8, page 19:

It is not clear how Poisons Surveillance data which is typically pre-hospital, has identified the location of a button battery 'post investigation'. The section of the graph representing National data most likely represents the reporting to Poisons of a suspected battery inserted into the ear/ nose, or ingested, but not confirmed cases.

The proportions in the graph do not add up to 100%. This is not explained and without the original data source it is difficult to interpret. However, in relation to QISU data Jan 1999-Dec 2017, of 447 suspected battery exposure presentations to participating emergency departments, 271 (61%) were confirmed ingestions, 40 (9%) were confirmed ear/ nose insertions and 136 (30%) were suspected exposures but battery not found on X-ray.

Of a total of 51 suspected button battery exposure presentations to QISU participating hospitals in 2017; 11 (21%) were suspected but not found (QISU report, June 2019).

Page 19:

The term 'toy' in emergency department and Poisons Information data refers to items that consumers/ patients/ parents identify as being toys. This does not mean that they are designed and marketed as toys as defined by regulation. Nor does it mean that children aged < 36 months who accessed a battery from a 'toy' did so from an item that was designed and marketed as a toy for a child under the age of 36 months.

It is likely that many of the battery exposures related to 'toys' are in fact associated with accessing batteries from novelty items. Many of these items are poorly constructed, not durable and carry a label stating, 'this is not a toy'.

Having said that, the child defines the toy, not the regulator, and children, particularly young children, will play with all manner of items, toy, novelty, car keys etc.

Page 20:

An update on the Australian Paediatric surveillance Unit (APSU) study: Severe Injury related to disc batteries (SIRDB).

Active, national data collection on SIRBD commenced in December 2017, through the APSU with reporting by a wide network of registered participating clinicians (all child health specialists) including; paediatricians, paediatric gastroenterologists, ear nose and throat surgeons, ophthalmologists, and paediatric surgeons. Monthly report cards are emailed or sent by reply-paid post to ~ 1500 clinicians requesting notification of new cases. Clinicians who notify a case that meets study criteria are requested to complete a questionnaire providing de-identified data. The general monthly response (either stating no new cases to report or identifying a new case) to the APSU report card is 92.0% and return rate of the SIRDB questionnaire following case identification is 96.5%. The Protocol and study questionnaire can be accessed at: <https://www.apsu.org.au/studies/current/>

A 'severe' case is defined as follows:

CASE DEFINITION:

Any child < 16 years of age with newly diagnosed injury related to disc or button battery ingestion or insertion that required procedural intervention either to remove the battery or to assess or repair damage related to the battery.

Exclusions:

Please do not report cases where the battery has been ingested/inserted and it has passed/fallen out of the patient and the patient does not require a procedure to remove the battery or to assess or repair damage related to the battery.

This definition was selected to capture both children for whom early recognition and urgent intervention resulted in a procedure (which of itself is not without risk) that revealed little or no injury as well as those for whom the course was more complicated.

In 21 months from Dec 2017- August 2018, the APSU received 29 notifications, of which, three are duplicate reports, one unsubstantiated and 25 are confirmed cases of SIRBD. One questionnaire is outstanding at time of writing.

Battery location:

18 oesophageal batteries (at time of reporting one oesophageal case from ACT has been identified and included here but no further details supplied)

2 ear

2 stomach

1 oesophagus/ stomach (details incomplete)

2 not found: possibly in small bowel or vomited

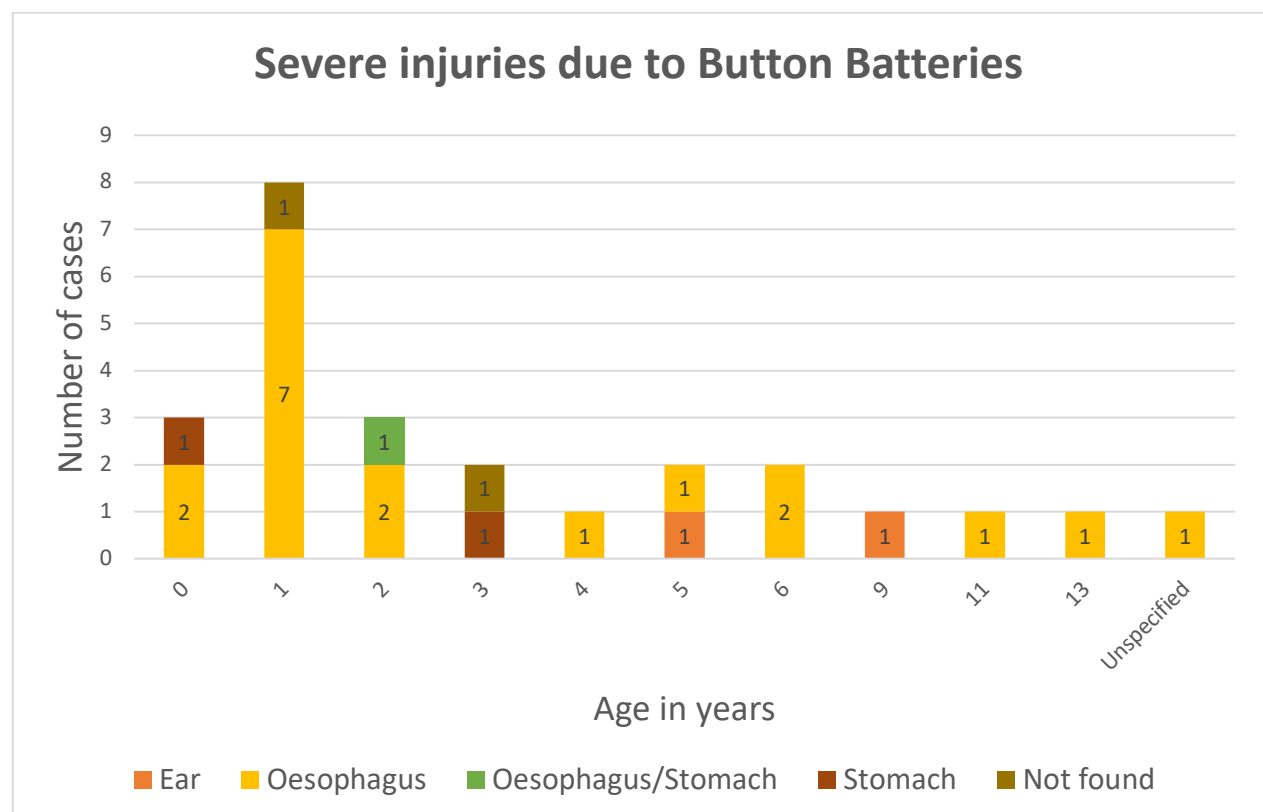
Age range: n=25 (one case details pending): 11 months- 13 years of age.

Children aged less than 12 months were all 11 months of age.

24 were unintentional ingestions/ insertions with one deliberate ingestion by a 13-year-old.

Battery ingestion/ insertion cases: APSU SIRDB, Dec 2017-Aug 2019, n = 25

Number of cases by age in years and battery location when procedure performed.



Removal hospital by State:

QLD: 11: 1 ear, 9 oesophagus, 1 stomach (2 oesophageal cases originated elsewhere; one in Northern NSW and one in Northern Territory)

NSW: 5: 1 ear, 3 oesophagus, 2 not found (Two cases where battery removed in Albury then cases referred; one to NSW and one to Vic for aftercare)

Vic: 4: 3 oesophagus and 1 oesophagus/ stomach (details incomplete)

ACT: 1 oesophagus (details pending)

SA: 2: 1 oesophagus and 1 stomach

TAS: 1: 1 oesophagus (referred to Vic for further care)

WA: nil

NT: nil (one case came from Lake Nash and battery was removed in Townsville with subsequent aftercare in Brisbane)

Language spoken at home

8/25 cases were from a non-English speaking background (NESB): 2 Somali, then one each of: Sudanese, Nepali, Urdu, Assyrian, Farsi and an Indigenous language.

Battery size/ details:

All but 2 cases (where 2 medium sized batteries were ingested by each child) were single battery exposures and none involved a magnet co-ingestion.

16 cases involved large batteries $\geq 20\text{mm}$

5 cases involved medium sized batteries (2 cases involved ingestion of 2 batteries by each child): 10-19mm

2 cases involved batteries $\leq 10\text{mm}$

2 cases no battery details as not found

Battery was accessed by child from:

Battery packaging: 4 (all unused)

- Battery packaging previously opened by an adult: 1
- Older child purchased battery for self-harm: 1
- Non-child resistant battery packaging opened by the young child: 1
- No further details: 1

Product compartment: 10

- Battery compartment closure was broken/ fell open on impact: 3
- Child accessed battery from a functioning but non-child resistant compartment: 6
- No further details :1

Loose: 4

- Floor: 1
- Table-top/ counter: 3

Unknown method of access: 4

Not reported: 3

Where product details known and provided: n = 13

Car key/ remote: 2

- Hyundai i30 2010 model: keys dropped by 11-month-old; battery fell out and was ingested. Ingestion discovered when car key did not work the next day.
- Car remote battery loose on table-top: ingested

Glucometer handed out at hospital antenatal visit: 2

- Roche Accu-chek: 2 x 20mm batteries with flip cover compartment. Battery ingested by pregnant mother's 2-year-old child
- Brand unknown but similar battery cover. Product given to mother when pregnant. 3 years later same child (now aged 3) accessed product from a drawer and ingested battery

Audio-visual equipment: 4

- Apple TV remote: no further details
- Car stereo remote: Brand unknown, simple flip closure. 4-year-old sibling dropped remote, battery fell out and 2-year-old ingested the battery.
- Remote for Panasonic soundbar: Battery probably placed by adult on bench top when stopped working. Accessed by 11-month-old
- Remote for Samsung speaker: Ingested by 6-year-old; standard non child resistant compartment

Lights: 3

- Bike light: Silicon bike light given to 11-year-old child by RAA (promotional product provided by third party but branded with RAA) at a school road safety presentation. There was no battery compartment as such; simple slit. 11-year-old was mouthing the battery at home and accidentally swallowed when he stood up. He had seen a battery safety poster when recently immunised by GP, so Googled what to do and frantically texted mum who was at work.
- Finger light: 3-year-old accessed 2 medium batteries from a standard non child-resistant battery compartment
- Tea light: Given to 4-year-old sibling at childcare for Mother's Day present. At home, product dropped and despite having had a screw closure to the battery compartment, the light broke, battery fell out and was ingested by 2-year-old sibling.

Toy: 2: both designed for children > 36 months

- No further details but medium battery placed in ear of 9-year-old child
- No further product details but 1 year old accessed medium battery from standard battery compartment

Only 3 of the 25 batteries involved were identified by brand. The 3 identified were all Energizer batteries:

- Deliberate ingestion of a CR2032 battery by a 13-year-old (battery purchased by child for this purpose)
- Insertion of a small battery into the ear of a 5-year-old (product unclear but battery accessed loose from table-top)
- Ingestion of a CR2032 battery by an 11-month-old (battery was from a Panasonic sound bar, thought to have been used and left on the table-top)

As stated above, the largest determinant of injury severity is charge and time to removal.

Follow up data on outcomes of these cases is not yet available. However, preliminary information shows that the severity of injury and subsequent treatment course varies significantly.

In Queensland the **longest time from suspicion of battery ingestion to removal** was in the case from Lake Nash, Northern Territory; 1-year-old Indigenous child, 12 hours to battery removal. This child was collected by a Royal Flying Doctor Service (RFDS) flight from Mt Isa, returned to Mt Isa for imaging whilst the plane refuelled, then on-flown to Townsville. There was a delay in removing the battery due to arriving at 0100h. This child was then flown to Brisbane for further care and requires long term follow up.

The longest admission in Queensland involves the other Indigenous child in this cohort; retrieved from Cherbourg to Brisbane prior to any imaging as there were no radiology facilities available at Cherbourg Hospital on that day. He sustained a significant oesophageal burn requiring placement of a gastrostomy feeding tube. He developed airway symptoms with a vocal cord palsy and chemical croup with subglottic oedema. His airway symptoms took 2 weeks to resolve. There were other significant complications which required a 6-week initial stay in hospital. He will require long term follow up.

The longest duration of battery exposure is the case reported from Victoria:

<https://www.msn.com/en-au/news/australia/deadly-button-batteries-are-sending-20-aussie-kids-to-hospital-weekly/ar-BBVYtCD?ocid=spartanntp&li=AA4Znz>

Shaylah Carmichael's case was reported widely in the media. The 5-year-old had ingested the battery approximately 4 months earlier. It lodged mid oesophagus and caused difficulty eating with resulting weight loss. The battery behaved more like an inert foreign body but had eroded into the oesophageal mucosa.

The APSU data has not captured all severe cases during the study period. Significantly more cases have been reported in QLD than other states. Several reports are still pending.

Figure 13: page 24:

It would be useful to understand the primary source of the mandatory reporting cases and the nature and severity of the injury associated (as this is the trigger for reporting). If the threshold for injury was hospital attendance, this mandatory reporting data should capture all cases that presented to Emergency Departments, in which case there is significant under-reporting.

It is likely that many suppliers are unaware that injuries have occurred in relation to their products. If mandatory reporting cases only includes those reported by industry, again, this is likely to be a significant underestimate of the burden.

Can primary reporters be categorised as health, industry, consumer?

13.1 Market Surveillance: page 33

Although some aspects of the voluntary code have been adopted, it remains common to find products with either no attempt to improve battery safety or conflicting attempts. For example, a set of kitchen scales with a simple non-child-resistant battery compartment containing 2 x 20mm disc batteries that has a warning label on the box stating, 'do not use if battery compartment not secure'. 'Child-resistant' is a better term to use to describe the intent of the battery compartment design as it can better be defined/ tested. Secure in this sentence is perhaps used to indicate compartment closure, but the term is misleading.

Risk Assessment: Page 34

Although the risk assessment seems to have involved a drop and shear test, albeit not prescriptive, the figure refers to 'adequately secured' battery compartments as opposed to child-resistant and durable battery compartments. See comments above.

15.1: Health Practitioner advice: page 37

As reported in the issues paper, QISU developed a 'Who and what do I X-ray' document: <http://www.qisu.org.au/modcorefrontend/upload/Disc-Batteries-QISU.pdf>

This was specifically designed to assist clinicians in considering the possibility of and then diagnosing occult battery ingestions/ insertions, as in the Shaylah Carmichael case and Summer Steer and Isabella Rees' cases. Guidelines for foreign body removal and battery management are useful for when a battery exposure is identified, but they cannot be applied when the battery exposure has not been recognised.

Although improved health system awareness and timely management of cases is important, it will always be a case of snatching limited success from the jaws of disaster and at times, not even that. Battery redesign followed by reduced exposure to batteries through compliant products are the most effective measures.

15.4: The Battery Controlled: page 38

The Australian Battery Controlled website is not currently managed by Kidsafe and needs updating/ correcting. Energizer holds the rights to do so. Kidsafe QLD is currently in discussions with Energizer regarding assuming control of this website and its content.

15.5: Australian Battery Recycling Initiative: page 38

With the ABRI there was significant potential to secure still hazardous large disc batteries at end of life in reusable child-resistant containers that could not only reduce child injury but also facilitate cleaner disposal of a hazardous waste. The explosion of cheap disc battery operated products has not only generated a health problem, but an environmental issue that is neither being discussed nor measured.

17.3: Bitterants and dyes: page 42

Dyes of a significantly unusual colour have the potential to identify a child with an occult ingestion if that child is vomiting/ regurgitating/ drooling.

Bitterants are likely to be less effective. Application of bitterants was suggested by industry in response to the ACCC ban on small powerful magnets. Not everyone is able to taste bitter substances. This is genetically determined. And, it is one of the great paradoxes of life that whilst small children may not eat broccoli, they will eat dog poo. Taste is not always a deterrent.

Therefore, as a single strategy, bitterants and dyes will not work in all cases. As a part of a combined comprehensive strategy of risk reduction they may have some utility, though there are currently no studies demonstrating their effectiveness for prevention or identification of ingested foreign bodies. And there is evidence that it may not be effective at all: <https://www.ncbi.nlm.nih.gov/pubmed/19571333>

Questions for response

1. What data or information can you provide on the size and value of the Australian market, or for a segment of the market, for button batteries or for products that contain button batteries?

As indicated above, to help illustrate the breadth of the market, **in addition to regular suppliers**, the following organisations have been known to distribute/ use/ recommend such products (specific examples can be provided on request):

Organisations that are fundraising; P and Cs, charities, faith groups (Carols by Candlelight)

Organisations that are promoting services; Commonwealth Bank, Alinta Energy, Ipswich City Council

Organisations that are promoting safety messages; St John's Ambulance, Royal Automobile Association (RAA), City of Gold Coast

Organisations looking for a novel product to boost sales; Queensland Performing Arts Centre, Event Cinemas

Organisations using small items as a giveaway; Subaru, Sushi Train

Organisations using disc batteries for educational purposes; Queensland University of Technology (QUT), CSIRO

This list is not exhaustive, and organisations identified have not been singled out for any purpose other than to illustrate the breadth and depth of the issue.

2. What data or information can you provide on the prevalence of and costings of injuries and fatalities caused by button batteries?

Data from the APSU series of severe cases is provided above. Whilst there are no formal costings available at this stage, the 'health cost' of button battery related injuries needs to consider the following potential issues:

- Poisons services
- Ambulances services
- Retrieval services: requiring specialist medical teams, helicopter and plane transfer sometimes over long distances

- Emergency department presentations
- Imaging; plain X-rays, CT, MRI imaging
- Operating theatre facilities, equipment and expertise
- Intensive care services
- Therapeutic support; dieticians, psychologists
- Disruption to family life and income
- Emotional distress
- Family breakdown/ unemployment
- Long term health and psychological implications

In particular, oesophageal tissue damage in young children is life changing because the scar tissue does not grow with the child. Caustic injury at a young age often requires many repeated oesophageal dilatations for the child to be able to swallow solids and carries a life-long risk of oesophageal cancer.

3. What information can you provide on the range of products that you supply that contain button batteries?

Health services regularly supply free of charge button battery powered products (regulated under the TGA); predominantly glucometers but on occasion thermometers.

On request, in 2016, Abbott redesigned their glucometer so that it was a fully contained device that went to landfill at end of life. This product was only rolled out late in 2017 and only in Queensland. At the hospital that instigated the redesign, the contained device was only used for inpatients, with glucometers with accessible batteries still being given to outpatients to take home. One of the children identified in the APSU series above accessed batteries from a Roche glucometer that was dispensed to her mother at an antenatal clinic visit to the instigating hospital in 2018.

4. Do you think the recommended safety actions in the *Industry Code for Consumer Goods that Contain Button Batteries* (Code) for products that contain button batteries are adequate to reduce the risk of children accessing button batteries? Please provide the reasons for your response.

The Code needs to be mandatory, prescriptive, enforced and applied to all products containing button batteries.

The current Code is under revision. Version 1 did not include the following essential elements:

- Advice to the consumer that the product contains a button battery
- Poisons Information contact details
- Requirement to secure a battery sold with the product either within the product or child-resistant packaging
- Child resistant packaging for batteries sold separately

Even with these elements in the Code it is difficult to achieve all layers of protection for every product, particularly when products are accessed without point of sale information; as giveaways, from rented accommodation, educational facilities, hospitals etc.

5. Do you think the recommended safety actions in the Code should be made mandatory? What impact would mandating these requirements have on Australian suppliers?

Yes, see above.

Mandating existing elements of the Code would give clear direction to industry and level the playing field. Currently, the toy industry has been performing well against criteria set out in the code yet competing with cheaply constructed novelty items.

Supply of quality durable products with secure battery compartments is more expensive and will require investment on the part of industry. Meeting higher standards should be rewarded with certainty in the market.

6. If you are a supplier, do you supply products that comply with the Code? If no, please explain why. If yes, what actions do you have in place to reflect the Code?

See item 3 above.

7. What other research and development activities are you aware of that are directed toward:

- (a) improving button battery safety
- (b) improving the safety of consumer goods containing button batteries
- (c) improving the medical approach to button battery ingestion or injury?

a. The issues paper has mentioned (at 17.6) the device for secure storage of new and old batteries.

This device; Battguard: <http://battguard.com.au>; is able to be used for battery sale and potentially safe battery recycling. The device stores batteries end to end, avoiding direct

pole to pole contact which can trigger a fire. The function is similar to the coin release on Aldi shopping carts, such that a battery cannot be retrieved from the device without inserting a similarly sized spent battery.

In addition, a Queensland Inventor has developed a redesign for button batteries such that electrical current does not run as efficiently when not in a device. This significantly extends the time to injury if ingested.

Both of these inventions have been put forward to Energizer (as a leader in this area) for consideration but have not been picked up for development.

c. In addition to the use of honey mentioned in 17.4, the same group of investigators have shown that in theatre oesophageal irrigation with 0.25% sterile acetic acid reduces tissue destruction. This is recommended in the Poisons.org guideline and is currently being used in QLD and anecdotally is proving promising: <https://www.poison.org/battery/guideline>

Queensland has developed a referral/ retrieval algorithm to expedite rapid referral management for children with oesophageal button batteries. The algorithm highlights the time critical nature of the issue and is designed to move a child to a place of diagnosis and specialist battery removal in the shortest possible time. Other states have developed similar protocols; Vic and SA.

8. Would a mandated safety standard for the security of battery compartments of products containing button batteries be likely to reduce the number of injuries and fatalities caused by button batteries in Australia? Please provide the reasons for your response.

Yes.

The majority of incidents described in the APSU data involved children accessing batteries directly from products due to non-child resistant battery compartments

However, as also demonstrated in the APSU data, batteries are accessed from battery packaging, loose, from products that break open and from compartments that are not reclosed securely. A multi-layered approach addressing all causes for unintended access is required to effect significant incremental but compounding positive change. No one stand-alone solution will work until button batteries are rendered innocuous through redesign (see item 7a).

9. Would a mandated safety standard and/or an information standard for child resistant packaging and labelling be likely to reduce the number of injuries and

fatalities caused by button batteries in Australia? Should any such standard require provision of Australian Poisons Information Centre details? Please provide the reasons for your response.

Yes.

Child-resistant packaging of high-risk pharmaceuticals and household chemicals has dramatically reduced rates of significant poisoning on a global scale. Whilst there is room for improvement in the design, testing specifications and quality assurance processes associated with child-resistant packaging, it is likely that adopting existing child resistant packaging standards for batteries will incrementally reduce unintended access by young children

Button batteries are a poison. They generate production of NaOH which is essentially oven cleaner. If manufacturers and suppliers of oven cleaner need to provide the Poisons Information number on their product, why not manufacturers and suppliers of button batteries and button battery operated products?

Industry has a duty of care to provide advice to the consumer that they are buying a product that contains a hazard/ poison and a duty of care to provide remedial advice should someone be injured/ poisoned by their product.

10. If it is your view that child resistant packaging and labelling requirements should be mandated, do you think this should apply to all button batteries regardless of size or chemistry? Please provide the reasons for your response.

Yes.

Child resistant packaging and labelling requirements should be mandated and apply to all button batteries and respective products regardless of chemistry or size. Prescriptive labelling requirements also serve to raise consumer awareness of the hazard.

Button batteries do not remain in the packet. How is a consumer to know which battery is what chemistry and the relative risks of exposure? Until such time as all button batteries are redesigned so as to not have the potential to cause severe injury, caution should be advised with any button battery.

11. In your view, should any consumer products containing button batteries be banned from supply in Australia? If yes, please provide details and reasons.

Banning supply of products that do not have a child resistant battery compartment and would not pass durability tests is desirable but impractical. Many glucometers on the market do not meet this basic requirement.

12. If any of these requirements were mandated in Australia, what additional cost would be imposed on Australian suppliers or a relevant supplier segment?

Unsure

13. If you are a supplier, what information can you provide on the actual or likely cost of implementing the safety standard and information standard outlined in section 19.2 for button batteries and for products that you sell?

Unsure.

14. Are there any button battery products that you think should be exempted from any mandatory safety or information standards? Please provide reasons why.

Hearing aids are essential items and contain small batteries that are lower risk. The demographic most reliant on hearing aids are older Australians and they are also the demographic who struggle most with changing batteries in these small devices. The hearing industry is leading the way in developing new products that recharge batteries through induction. It is likely that with incentives, such new devices could be phased in and a win-win for older Australians as well as those most at risk for battery related injuries.

Hearing aids designed for children are currently available with locking devices for the battery compartment. This strategy should be maintained, and consideration given not only to the age of the child wearing the hearing aid, but the ages of other children who might access the hearing aid when it is taken off in that household.

15. Please provide any other information you consider may be relevant to the ACCC's consideration of these issues.

The E's of injury prevention:

There are at present 5 E's of injury prevention:

Engineering: (re-)design of a product/ system to reduce the likelihood of misuse/ mistakes.

Enforcement: legislative change to require adoption of new designs with **follow through to ensure that there is adherence.**

Education: Often seen as the easiest route to changing injury incidence, education rarely takes into consideration challenges of message penetration, linguistic barriers and the difference between providing information and actually affecting change in behaviour. The greatest value of 'education' is creating a movement that will embrace and accept engineering and enforcement strategies.

Economic Incentives: Recognises that the determinants of injury lie not with those health services who pick up the pieces, but with the economic and industrial mechanisms that drive our global systems.

Emergency Responses: A necessary but inefficient strategy to rescue the already injured and salvage what remains.

But there is another E; **Elimination:**

The most effective injury prevention comes when the risk is eliminated, and the void left behind (if there is one) is absorbed rather than being replaced by another risk.

Whilst in the short term, we need to be mandating safer products, in the longer term, we need to be investing in removing this hazard altogether.

In summary, this issue is insidious and pervasive, and we have stood by whilst the casualties of a largely unnecessary market force have climbed. This epidemic is costing us economically and emotionally.

No other country is taking the lead in considering regulation, but that is no excuse not to. Someone needs to step up, and the APSU data would suggest that it should be Australia.

Andrea Shoesmith (Summer's Mum) commented that it is "harder to unwrap a Chupa Chup than open most battery compartments". Please act!

A handwritten signature in black ink that reads "R. A. Barker". The signature is written in a cursive style with a long horizontal stroke extending from the end.

Dr Ruth Barker, MBBS, FRACPeds, MPH

Director, Queensland Injury Surveillance Unit

Emergency Paediatrician, Queensland Children's Hospital

Expert medical witness, for Summer Steer and Isabella Rees Coronial cases

Principal Investigator APSU SIRDB study

List of cosignatories:

A handwritten signature in black ink that reads "Andrea Shoesmith". The signature is written in a cursive style with a large, looped 'A'.

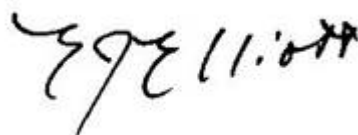
Andrea Shoesmith, Mother of Summer Steer

A handwritten signature in blue ink that reads "Allison Rees". The signature is written in a cursive style with a large, looped 'A'.

Allison Rees, Mother of Isabella Rees

Bachelor of Commerce (BCom)

APSU SIRDB Reference Group:



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Consultant Paediatrician, Sydney Children's Hospitals Network (Westmead)

NHMRC Medical Research Future Fund Practitioner Fellow

Director, Australian Paediatric Surveillance Unit

Co-Director NHMRC Centre of Excellence in Foetal Alcohol Spectrum Disorder

Co-Director Care and Intervention for Children and Adolescents with Drug and Alcohol Problems



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Honorary Associate Professor, Child and Adolescent Health, The University of Sydney and former Deputy Director, Australian Paediatric Surveillance Unit



Dr Hannah Burns

FRACS (otolaryngology) MBBS, BSc

Queensland Children's Hospital



Dr Richard Barnes MBBS, FANZCA

Paediatric Anaesthetist, Melbourne

Expert witness to Victorian Coroner, death of Isabella Rees

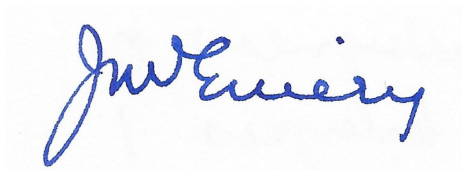


Dr Kelvin Choo FRACS

Paediatric Surgeon

Senior VMO, Queensland Children's Hospital

Queensland Paediatric Quality Council members:



Julie McEniery

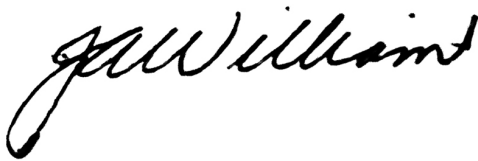
Chair, Queensland Paediatric Quality Council (QPQC)

Associate Professor, School of Medicine, University of Queensland

Senior Staff Specialist, Paediatric Intensive Care, Queensland Children's Hospital



Andrea Hetherington
Nurse Practitioner
Children's Emergency Department | The Prince Charles Hospital



Dr Judith Ann Williams
Clinical Director, Paediatrics,
Bundaberg Base Hospital

36 years ago, my son swallowed a button battery. He was just over 1 year of age. Fortunately, it was witnessed and there was a very quick visit to the Emergency department. I think they felt I was over reacting. X-ray of chest and abdomen revealed a battery, though fortunately it was in the stomach. The battery passed without any consequences.

Surgical Colleagues and organisations:

Adj Professor Deborah Bailey, F.R.A.C.S. Paed; M.B.B.S.

Chair of Queensland State Committee, Royal Australasian College of Surgeons

Paul Walker

Prof Paul Walker MBBS PHD FRACS FACS

President ANZSPO



Phil Fisher

Mr Phil Fisher, FRACS

President, The Australian Society of Otolaryngology Head and Neck Surgery



Dr Craig McBride

Senior Staff Specialist Paediatric Surgeon, Queensland Children's Hospital

Senior Lecturer, University of Queensland

Adjunct Research Fellow, Griffith University

Member, Queensland Paediatric Quality Council, Clinical Incident Subcommittee

Member, Queensland Trauma Committee, Royal Australasian College of Surgeons

Core Member, Centre for Children's Burns and Trauma Research, Queensland Children's

Medical Research Institute

Paediatric Colleagues:



On behalf of Departments of Paediatric Medicine and Paediatric Surgery Gold Coast University Hospital

Assoc. Prof. Susan Moloney

MBBS FRACP Pre-Eminent Staff Specialist
Honorary Adjunct Professor Bond University
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Gold Coast Health

Consumer Product Injury Research Advisory Group members:

Kidsafe:



Susan Teerds CEO Kidsafe Qld,
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