# Recommendations from the coroner

**Board:** Medical Board of Australia

**Finding Date:** 3 November 2015

**Details:** Inquest into the death of Summer Alice Steer by the Office of the State Coroner, Queensland Courts constituted by John Hutton, Coroner.

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**From time to time, a state coroner may refer a finding of an inquest to AHPRA or the Board to bring to the attention of the profession.** AHPRA will publish a case summary of each referral from the coroner on its website, naming the deceased person, with the coroner's recommendations in full. A link will also be provided to the coroner's website. Practitioners are encouraged to access the AHPRA website at www.ahpra.gov.au to keep up to date with these cases and the coroner's recommendations.

When the Board decides that a referral from the coroner has wide-reaching implications for practitioners, it may publish a summary of the case, and highlight particular issues relevant to the profession.

## Introduction and background

Four-year-old Summer Steer died 30 June 2013 after swallowing a two-centimetre button battery. The medical cause of Summer's death was a haemorrhage, due to an aorta-oesophageal fistula, which was caused by the ingestion of a button battery that was lodged in her oesophagus.

Summer attended the doctors of Tewantin clinic with her mother Ms Shoesmith on 17 June 2013 with a sore stomach. Her mother had recently had giardia and a prescription for antibiotics for this was provided to Summer. This is thought to be the first indication of the ingestion of the battery.

Summer was first taken to the Noosa Private Hospital after vomiting blood on Sunday 30 June around 12.30am. She was discharged around 2am after showing no indication that her condition was anything more severe than a spontaneous blood nose. The vomiting was incorrectly attributed to epistaxis, a result of Summer swallowing the blood of the earlier nosebleed.

At 10.40am Summer was readmitted to hospital following further blood vomits. She collapsed during a blood transfusion and was then intubated and ventilated. It was during the routine post-intubation chest x-ray that the button battery was discovered.

Summer was transferred by helicopter from the Noosa Private Hospital to the Royal Children's Hospital. On landing, she went into cardiac arrest and was raced to surgery. The surgeons located the approximate site of the aorta injury and could feel the button but were unable to access it for removal.

The source of the battery remains unknown. By the time of its discovery, the acid from the battery had created a fistula (perforation) in the oesophagus causing significant damage and blood loss during surgery. Summer was pronounced deceased at 1:45pm.

Dr Forde was of the opinion that the medical cause of Summer's death was:

1(a). Haemorrhage, due to, or as a consequence of

1(b). Aorto-oesphageal Fistula, due to, or as a consequence of

1(c). Oesophageal Foreign Body (Battery).

The full coroners report can be read here:
http://www.courts.qld.gov.au/__data/assets/pdf_file/0004/444289/cif-steer-sa-20151103.pdf

## Coroner's recommendations

**Recommendation 1 – button battery manufacturers**

Button battery manufacturers are urged to fund and develop without delay:

a. safer button batteries that design out the hazard so that chemical reactions do not occur when ingested by children; and

b. cheap battery disposal containers for storage in the household and transport to recycle centres.

Button battery manufacturers are called upon to urgently implement the Australian Competition Consumer Commission's suggested packaging and safety warning standards for all button batteries sold in Australia. This should be reflected in the development of an industry 'best practice guideline'.

**Recommendation 2 – manufacturers, distributors and retailers of products containing button batteries**

All manufacturers, distributors and retailers of products containing button batteries are called upon to:

a. place adequate warnings on their packaging, on the products themselves, and within user manuals that identify the presence of a button battery and that the battery is a health hazard if ingested or inserted; and

b. ensure that button batteries are not supplied with their product in a way that is easy accessible to small children. This should be achieved by implementing an existing child resistant packaging standard for battery packaging and by implementing the existing toy standard to ensure that batteries are secured in a child resistant battery compartment within the product.

**Recommendation 3 – Australian Competition and Consumer Commission (ACCC)**

That the ACCC:

a. rapidly develop regulation for the Commonwealth Government's consideration, which mandates (through an Australian standard or otherwise):

   i. a horizontal standard, requiring all button battery compartments within products to be secured so that they are child resistant; and

   ii. a current child resistant packaging standard for non- pharmaceutical products (currently AS 5808- 2009 for non re- closable packaging or AS 1928-2007 for re-closeable packaging) to all battery packaging.

**Recommendation 4 – Commonwealth Government**

That the Commonwealth Government implement, in conjunction with state governments, industry, and the Australian Battery Recycling Initiative:

a. a national battery disposal/recycling system for all hand held batteries; and

b. the provision of practical advice to the public about household storage and transport of hand held batteries to disposal centres.

**Recommendation 5 – Queensland Government and industry**

That the Queensland Government collaborate with the button battery industry and product manufacturers, distributors and retailers to fund organisations such as the Office of Fair Trading and Kidsafe to:

a. conduct an ongoing active public awareness campaign to warn the public about the dangers of button batteries for children and practical ways to mitigate the risk.

**Recommendation 6 - all state health departments**

That all state health departments:

a. co-ordinate with a view to developing a national reporting system for battery related exposures and injuries;

b. promote Poisons Information Centre services as a first point of information for families following a battery exposure;

c. develop retrieval and management protocols for button battery related injuries for their particular jurisdiction. This protocol should be shared with the Poisons Information Centre network; and

d. re-design their 24 hour fluid balance charts and introduce protocols to ensure that it is clear where vomit and blood should be recorded, and to standardise the way in which loss of blood is described (in relation to volume, consistency and colour). The form should include the patient's weight and a formula for calculating circulating volume. (This form re-design is a broader health issue, not just related to button battery ingestion).

**Recommendation 7 - all pediatric hospital sites**

That all Pediatric hospital sites:

a. Increase awareness of the identification of button battery ingestion amongst staff, patients, and patients' families; and

b. Develop algorithms for foreign body related injury and upper gastrointestinal bleeding that highlight the potential involvement of disc batteries. Such algorithms should be accessible externally.

**Recommendation 8 - medical professional colleges and associations**

The Royal Australian and New Zealand College of Radiologists and the Australian Institute of Radiographers are encouraged to:

a. develop an algorithm for early clinician notification where a button battery is present on x-ray.

The Australasian College of Emergency Medicine; Royal Australasian College of Surgeons (general paediatric surgeons and ear nose and throat surgeons); and Royal Australasian College of Physicians (Paediatricians and Paediatric Gastroenterologists) are encouraged to:

a. adopt policy documents, which support prevention of button battery ingestions; and

b. identify management strategies.

**Recommendation 9 – Australian Health Practitioner Regulation Agency (AHPRA)**

That AHPRA:

a. raise awareness amongst clinicians, pharmacists, and radiographers in relation to emerging product safety issues such as button battery ingestion by emailing a brief description of the issue and providing a link to the ACCC reporting site and the Poisons Information Centre.

**Recommendation 10 - Noosa Private Hospital (and Ramsay Health)**

That Noosa Private Hospital (and Ramsay Health):

a. review and revise the current process for reviews of hospital deaths, including unexpected deaths of patients who have presented at the emergency department to ensure that systemic issues are always considered and such processes are recorded and conducted impartially;

b. introduce a medical record keeping system to ensure that all electronic entries are automatically date and time stamped and that clinicians are educated as to the need to record the date and time of their specific observations and activities;

c. re-design their 24 hour fluid balance chart and protocols to ensure that it is clear where vomit and blood should be recorded, and to standardise the way in which blood is described (in relation to volume, consistency and colour). The form should include the patient's weight and a formula for calculating circulating volume. (This form re-design is a broader health issue, not just related to button battery ingestion);

d. implement a protocol for phone and telemedicine consultations where Noosa Private Hospital medical practitioners obtain primary support from other hospitals (such as for paediatric support from the Nambour General Hospital) to ensure that:

    i. structured information is provided in a standardised manner (eg. provision of raw number for vital signs). This should minimise the risk of assumptions being made on a false premise and minimise the risk of misdiagnosis and mismanagement; and

    ii. the information conveyed and advice received is recorded.

**Recommendation 11 - Nambour General Hospital**

That the Nambour General Hospital:

a. implement a protocol to ensure that where the Nambour General Hospital provides primary support to other hospitals (such as paediatric support to the Noosa Private Hospital):

    i. information is sought and advice provided in a structured and standardized manner (to minimise the risk of misdiagnosis and mismanagement); and

    ii. the advice is recorded by the medical practitioner providing the advice, regardless of whether the Nambour General Hospital holds a patient file for the patient being discussed.

**Recommendation 12 - Queensland Ambulance Service**

That the Queensland Ambulance Service:

a. develop procedures and training to enable ambulance officers who attend a scene and have an opportunity to observe blood to more accurately record colour, consistency and volume (where clinical circumstances allow).

**Recommendation 13 - Dr Andrew Spall**

That Dr Spall:

a. focus on making more comprehensive medical notes in relation to his examination of patients in future. If this is not achievable due to his patient load, he should consider decreasing his patient load to achieve this;

b. record in writing any additional notes or observations that he can recall in relation to consultations should a patient of his die or be involved in a serious incident in the future. Such information should be provided to the coroner at the earliest opportunity, if the death is a 'reportable death'; and

c. consider initiating follow up appointments on a case-by-case basis for children who are unwell, wherever possible in future.