

# Safety Action Notice

Reference **SAN(SC)19/04**

Issued **20 December 2019**

Review Date **20 December 2020**

## Risk of harm to babies and children from coin/button batteries in hearing aids and other hearing devices

Source: This Safety Action Notice is issued in association with NHS Improvement and Healthcare Improvement Scotland. The content is based on Patient Safety Alert NatPSA/2019/003/NHSPS, issued by NHS Improvement on 13 Dec 2019

### Summary

Babies and young children (under five years) can suffer serious injury if they ingest coin/button batteries or poke them into their nostrils or ears. Precautions are recommended.

### Action

1. Review audiology team guidance/protocols to ensure:
  - a. for babies and children aged under five years; all hearing aids and other hearing devices, including temporary replacements or those previously issued, have secure battery compartments
  - b. for older children and adults; consideration of the need for secure battery compartments for:
    - i. those living with babies or children aged under five years
    - ii. those with additional risk factors\* or living with someone with additional risk factors\*
2. Review purchasing and supply to ensure audiology teams have access to the full range of hearing devices with secure battery compartments.
3. Revise information supplied to:
  - a. parents/carers of babies or children who use hearing aids or other hearing devices to explain the risks of coin/button battery ingestion\*\*
  - b. all hearing aid or other hearing device users on the importance of keeping batteries away from babies, children and anyone with additional risk factors\*

\* In the context of this alert, this means any adult or child aged five or over with health conditions or disabilities that might put them at increased risk of swallowing a coin/button battery or pushing one into an ear or nostril, including those with a significant learning disability, dementia or other cognitive or sensory impairment.

\*\* Information should explain the risks of coin/button battery ingestion, how to reduce the risk, including safe storage of spare batteries and batteries for recycling, and the need to act immediately if ingestion is suspected.<sup>1</sup>

#### Action by

- all organisations supplying NHS-funded hearing aids to babies, children or adults

#### Deadlines for action

Actions underway: 20 JAN 2020

Actions complete: 11 SEP 2020

## Problem / background

Babies and young children (under five years) can suffer serious injury if they ingest coin/button batteries or poke them into their nostrils or ears.<sup>1,2,3</sup> This group is at most risk of serious harm because they tend to explore the world by putting things in their mouths and batteries can become lodged in their narrow oesophagus and cause rapid tissue necrosis, perforation, and haemorrhage.<sup>1,3</sup>

While the larger lithium batteries have the greatest potential to cause harm, including death, the smaller zinc–air batteries, used in hearing aids, cochlear implants, bone-anchored hearing aids and similar equipment, still present a significant risk.<sup>4,5</sup>

An alert issued in 2014 brought attention to the risk to children from ingestion of any coin/button battery and the need to treat this as a medical emergency.<sup>2</sup>

NHS Improvement received a report of a one-year old child who swallowed the button battery from their hearing aid, which did not have a secure battery compartment. Investigation of current guidance identified that although standards for manufacturers of hearing aids exist,<sup>6</sup> national<sup>7,8</sup> and local policies are inconsistent about when hearing aids with secure battery compartments should be supplied; this can put children at risk.

## Additional Information

### Patient safety incident data:

The trigger incident was identified on the Strategic Executive Information System. The National Reporting and Learning System (reference 5170) was searched on 9 July 2019 for incidents reported as occurring between 7 July 2016 and 8 July 2019 and containing the term battery or batteries in children under five years. Thirteen incidents related to possible or actual ingestion of coin/button batteries; in most cases it was not clear where the battery came from. One more incident specifically mentioned possible ingestion of a battery from a hearing aid. As ingestion of a coin/button battery at home does not warrant completion of an incident report, actual numbers are unknown but these 13 reports confirm the potential for severe harm when coin/button batteries from any source are swallowed; they describe oesophageal perforation/fistula, life-threatening haemorrhage, perforation of the nasal septum and oesophageal abrasion, with three of the children requiring critical care.

The Child Accident Prevention Trust suggest around two children per year in the UK die from coin/button battery ingestion, but the actual numbers seriously injured or requiring hospital treatment are unknown.<sup>1</sup>

A small opportunistic sample of local policies differed in whether children under 3 or 5 years needed secure battery compartments and did not consistently consider siblings or people with additional risk factors.

Past national resources, which are still used for reference locally,<sup>7,8</sup> describe these risks but are not comprehensive in terms of age ranges and the risks to others.

## Distribution

Audiology  
Health & Safety

Medical Physics  
Paediatrics

Risk Management  
Supplies / Procurement

## Stakeholder Engagement

NHS Improvement undertook stakeholder engagement with the following:

1. National Patient Safety Response Advisory Panel (see here for a list of members)
2. The British Society of Audiology (BSA)
3. The British Academy of Audiology (BAA)
4. UK Accreditation Service (UKAS)
5. British Association of Teachers of the Deaf (BATOD)

## References

1. Child Accident Prevention Trust: <https://www.capt.org.uk/button-batteries>
2. NHS England (2014) Patient Safety Alert – ‘Risk of death and serious harm from delays in recognising and treating ingestion of button batteries’:  
<https://www.england.nhs.uk/2014/12/psa-button-batteries/>
3. HSIB report – ‘Undetected button/coin cell battery in children’:  
<https://www.hsib.org.uk/investigations-cases/undetected-button-battery-ingestion-children/>
4. Litovitz et al (2010) Preventing battery ingestions: analysis of 8648 cases. *Pediatrics* 125: 1178–1183.
5. Litovitz et al (2010) Emerging battery-ingestion hazard: clinical implications. *Pediatrics* 125: 1168–1177.
6. IEC 60601-2-66:2015 Medical electrical equipment – Part 2-66.
7. Modernising Children’s Hearing Aid Services:  
<http://research.bmh.manchester.ac.uk/mchas>
8. Newborn Hearing Screening Programme Clinical Advisory Group (2009) - ‘Guidelines for Fitting Hearing Aids to Young Infants’:  
<http://research.bmh.manchester.ac.uk/mchas/innfantHAfittingguidelines/infantHAfittingguidelines.pdf>

## Enquiries

Enquiries (and adverse incident reports) in Scotland should be addressed to:

### **Incident Reporting & Investigation Centre (IRIC)**

NHS National Services Scotland

Gyle Square, 1 South Gyle Crescent, Edinburgh EH12 9EB

Tel: 0131 275 7575 Email: [nss.irc@nhs.scot](mailto:nss.irc@nhs.scot)

Report options are available on the HFS website: [How to report an Adverse Incident](#)  
Further information about reporting incidents can be found in [CEL 43 \(2009\)](#) or by contacting IRIC at the above address.

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