



# A Manifesto for Change: Button Battery Ingestion in Children

The European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) and the European Portable Battery Association (EPBA) are calling on authorities, healthcare providers and policymakers to drive awareness and understanding of button battery ingestion in children and deliver effective prevention strategies to help achieve earlier diagnosis and, ultimately, save young lives.

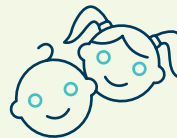
## The Challenge



Button battery ingestion (BBI) in children can have devastating consequences, potentially leading to severe injury and even death. BBI cases are increasing worldwide<sup>1,2</sup> due to the abundance of button batteries in consumer electronics<sup>3</sup> and there has been a seven-fold increase in the relative risk of severe injury due to BBI in the last two decades.<sup>4</sup>



Of all children presenting with foreign body ingestion, the percentage of children with battery ingestion is estimated to be as high as 7–25%.<sup>5–8</sup>



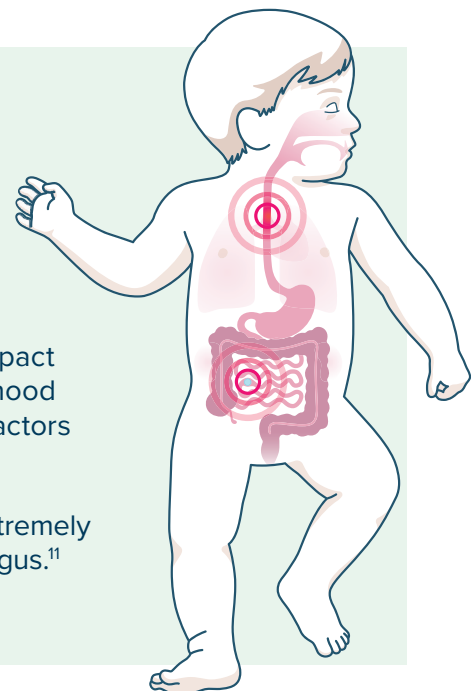
Most BBI cases occur in children below 6 years of age with a peak at 1 year of age, which is also when the highest risk of complications occur.<sup>1,9</sup> Studies have shown that 12.6% of children who ingest a >20mm button battery suffer severe or fatal injuries.<sup>10</sup>

## Why the Challenge Persists

Despite button batteries being the most harmful type of foreign body when swallowed by children,<sup>4</sup> far too few people understand or are even aware of the consequences. Moreover, only toys are currently required, within Europe, to have durable, secure battery compartments.

BBI diagnosis is very challenging, as many ingestions go unwitnessed by parents or carers, and children (depending on their age) may not be able to communicate what has happened. In contrast to the devastating internal impact of BBI, the symptoms are variable, non-specific, mimic other common childhood illnesses and evolve over the period that the battery is in the body. These factors can often lead to a delayed and potentially devastating diagnosis.<sup>11</sup>

To effectively treat and manage BBI, early recognition is critical due to the extremely narrow 2-hour time window for removal of batteries impacted in the oesophagus.<sup>11</sup>



# Resolving the Challenge: Our Calls to Policymakers

Action on BBI is urgently required and ESPGHAN and EPBA present 4 calls to action for public authorities, policymakers and healthcare providers to reduce the impact of BBI and ensure we protect future generations from this unnecessary burden:



1

## IMPROVE SAFETY REGULATIONS

Develop regulation which mandates child-resistant button battery packaging alongside durable and secure battery compartments for products powered by button batteries



2

## IMPROVE UNDERSTANDING

Collaborate with key stakeholders like ESPGHAN and EPBA to conduct an ongoing active education and awareness campaign:<sup>12</sup>



a. To warn the public about the dangers of button batteries to children, providing practical mitigation measures and highlighting the importance of seeking early medical attention in case of suspected ingestion



b. To improve early diagnosis and management of button battery ingestion amongst medical professionals by giving more attention to this subject in medical schools and relevant post-graduate paediatric training



3

## IMPROVE DISPOSAL MECHANISMS

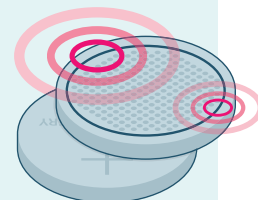
Enhance the implementation of pan-European battery disposal systems by better informing the public on the available collection points for all handheld batteries, including the provision of practical advice about household storage and transport of handheld batteries to disposal centres<sup>13</sup>



4

## IMPROVE DATA COLLECTION

Drive all health authorities of European nations to co-ordinate and develop a national reporting system for battery related exposures and injuries<sup>14</sup>



## #ButtonBatteryAwareness

### About ESPGHAN

The European Society for Paediatric Gastroenterology Hepatology and Nutrition (ESPGHAN) is a multi-professional organisation whose aim is to promote the health of children with special attention to the gastrointestinal tract, liver and nutritional status, through knowledge creation, the dissemination of science based information, the promotion of best practice in the delivery of care and the provision of high quality education for paediatric gastroenterology, hepatology and nutrition professionals in Europe and beyond. For more information visit: [www.espghan.org](http://www.espghan.org)

### About EPBA

The European Portable Battery Association (EPBA) is the leading organisation representing the interests of primary and rechargeable portable battery manufacturers, those industries using portable batteries in their products and distributors of portable batteries active within the European Union, and beyond. For more information visit: [www.epbaeurope.net](http://www.epbaeurope.net)

This policy document has been produced by the ESPGHAN Public Affairs Committee, in collaboration with members of the ESPGHAN Gastroenterology Committee and the European Portable Battery Association (EPBA).

**References:** 1. Litovitz T, et al. Emerging Battery-Ingestion Hazard: Clinical Implications. *PEDIATRICS*. 2010;125(6):1168-1177; 2. Jatana K, et al. Pediatric button battery injuries: 2013 task force update. *International Journal of Pediatric Otorhinolaryngology*. 2013;77(9):1392-1399; 3. Child Accident Prevention Trust. Button Batteries. Available at: <https://www.capt.org.uk/button-batteries-where-are-they> (Accessed: May 2022); 4. Eliason M, et al. Button battery ingestion in children. *Current Opinion in Otolaryngology & Head & Neck Surgery*. 2017;25(6):520-526; 5. Ibrahim A, et al. What Do Saudi Children Ingest?: A 10-Year Retrospective Analysis of Ingested Foreign Bodies From a Tertiary Care Center. *Pediatric Emergency Care*. 2021;37(12):e1044-e1050; 6. Khorana J, et al. Foreign Body Ingestion in Pediatrics: Distribution, Management and Complications. *Medicina*. 2019;55(10):686; 7. Diaconescu S, et al. Foreign Bodies Ingestion in Children: Experience of 61 Cases in a Pediatric Gastroenterology Unit from Romania. *Gastroenterology Research and Practice*. 2016;2016:1982567; 8. Kramer R, et al. Management of Ingested Foreign Bodies in Children. *Journal of Pediatric Gastroenterology & Nutrition*. 2015;60(4):562-574; 9. Varga A, et al. Analysis of Complications After Button Battery Ingestion in Children. *Pediatric Emergency Care*. 2018;34(6):443-446; 10. Litovitz T, et al. 1992 Annual report of the American Association of Poison Control Centers Toxic Exposure Surveillance System. *The American Journal of Emergency Medicine*. 1993;11(5):494-555; 11. Mubarak A, et al. Diagnosis, Management, and Prevention of Button Battery Ingestion in Childhood: A European Society for Paediatric Gastroenterology Hepatology and Nutrition Position Paper. *J Pediatr Gastroenterol Nutr*. 2021;73(1):129-136; 12. ESPGHAN has produced two advice guides for clinicians and the public respectively, which can be accessed here: <https://espghan.info/advice-guides/index.php>; 13. Australia's official battery recycling scheme, B-cycle, have published a video for the public on how to store button batteries more safely: <https://www.youtube.com/watch?v=B6XHnSBcyn4>; 14. The ESPGHAN Endoscopy Special Interest Group has launched a pan-European survey on BBI in children: <https://www.surveymonkey.com/r/6PC39JC>.