

Button battery ingestions in children

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■ Cite as: *CMAJ* 2021 September 27;193:E1498. doi: 10.1503/cmaj.210572

1 Injuries in children from ingesting button batteries are increasing

Between 1999 and 2019, the United States National Poison Data System reported a 66.7% increase in yearly ingestion of button batteries (6.98 to 10.46 per million population) and a 10-fold increase in complications (0.77% [$n = 76$] to 7.53% [$n = 551$]).¹ Button batteries can cause substantial tissue damage within 2 hours of ingestion.²

2 The type and size of the ingested battery influence the likelihood of complications

Lithium batteries (given their high voltage) and those 20 mm or larger (which are likely to become lodged in the esophagus) are most dangerous, especially in children younger than 6 years.² Complications include gastrointestinal perforation, aorto-esophageal fistulas and strictures.^{2,3}

3 Urgency of management depends on the location of the battery

Anterior–posterior and lateral radiographs of the chest and abdomen can determine the location of the button battery. Batteries in the esophagus should immediately be removed endoscopically. Management of batteries distal to the lower esophageal junction depends on patient age and size of the battery. If the child is younger than 5 years and the battery is 20 mm or larger, urgent removal is recommended. Otherwise, patients can be observed as outpatients for passage of the battery in the stool. If the battery does not pass, or if symptoms develop, imaging should be repeated (at 48 h if the battery is > 20 mm; at 10–14 d if < 20 mm) and endoscopic removal considered.³

4 Honey or sucralfate should be administered after battery ingestion

Honey should be administered before the patient reaches the hospital, and sucralfate when in hospital within 12 hours of battery ingestion, to mitigate tissue injury while awaiting possible definitive management. Animal studies have shown that these treatments result in fewer full-thickness injuries and less extension of injury.⁴ Honey can be given at 10 mL every 10 minutes for children older than 1 year (up to 6 doses) and sucralfate can be given at 1 g every 10 minutes (up to 3 doses).^{4,5}

5 Children should be monitored for long-term complications

Injuries from button battery ingestion can occur despite removal of the battery; injuries such as strictures and fistulas have been reported weeks to months after removal.⁵ Caregivers should monitor for symptoms including gastrointestinal bleeding and vomiting.

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Competing interests: None declared.

This article has been peer reviewed.

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