

MANAGEMENT OF BUTTON BATTERY INGESTION IN CHILDREN

Disc batteries are small, coin-shaped batteries used in watches, calculators, and hearing aids.

Information gained from the National Button Battery Investigation Study combined with more recent case reports and series involving successful conservative management has shown that these ingestions usually are benign.

Fatal cases or those with major sequelae usually involve oesophageal or airway battery lodgement.

Batteries that successfully traverse the oesophagus are unlikely to lodge at any other location.

Batteries pass through the GI tract in a relatively short period of time: 86% within 96 hours. Only 1% of batteries take more than 2 weeks.

Clinically significant outcomes (moderate, major, or fatal) occurred in only 1.3% cases from 1985-2009.

The larger size (20-25 mm batteries) is the most important predictor of a clinically significant outcome.

Lithium-containing batteries are more commonly associated with clinically significant outcomes than all other chemical types combined. Oesophageal damage can occur in a relatively short period of time (2-2.5 hrs) when a disc battery is lodged in the oesophagus.

Liquefaction necrosis may occur because sodium hydroxide is generated by the current produced by the battery (usually at the anode which is the flat surface without an imprint code or "+" sign). Perforation has occurred as rapidly as 6 hours after ingestion. The 20 mm lithium batteries are 3V cells as compared with 1.5V for other disk batteries.

Children younger than 6 years account for 61% of ingestions, with a peak incidence in those aged 1 and 3 years.

If a battery is seen below the diaphragm on an x-ray there is no need for repeat x rays unless further symptoms occur.

Dr Erin Dawson 3rd November 2014, updated November 2017

Guideline for known or suspected button battery ingestion

