INDIANAPOLIS - 13 Investigates has been tracking a dangerous problem involving a popular type of battery now found in most U.S. homes. The batteries are directly linked to serious injuries and deaths involving dozens of children nationwide, yet most parents are unaware of the risk.

Elena Redding was two years old. Brenna George was 17 months. Aidan Truett had just celebrated his first birthday.

The children all share a tragic story: they died suddenly after swallowing a small, round battery now found in millions of homes.

"You know, I never would have thought in a million years that a battery could have been so deadly," said Aidan's mother, Michelle. "Other parents, they need to know."

Often referred to as "button batteries," the coin-sized lithium cells can be found in hundreds of electronic devices and gadgets such as calculators, hearing aids, digital thermometers, remote controls, bathroom scales, talking books, flashing jewelry and musical greeting cards.

Most parents do not realize the batteries can cause enough damage to kill a child if swallowed.

Deadly burns

"These cases are devastating," said Dr. Toby Litovitz, medical director of the National Capital Poison Center in Washington, D.C.

Through NCPC, Litovitz has tracked staggering statistics involving button batteries. In 2010, the agency received more than 3500 reports of children swallowing button batteries. And in recent years those batteries have killed at least 18 children and seriously and permanently injured 85 more.

Statistics from the Indiana Poison Center and Riley Hospital for Children at Indiana University Health show at least 80 Indiana children swallowed button batteries last year, resulting in at least one death.

Medical experts say the real danger posed by the batteries is not from choking.

"The biggest problem is if it gets stuck in the esophagus, it will generate [an electric] current that goes outside of the battery ... and causes a chemical burn right through the tissue, and it does that in just a matter of hours," Litovitz explained.

Some button batteries, such as those used in hearing aids, are tiny and will likely pass through a child's system without causing major damage. But in the past decade, button batteries have been getting stronger and larger. The popular 20-millimeter size button battery is about the size of a nickel, and it poses extreme danger due to its high probability of getting stuck in a child's esophagus.

To demonstrate just how powerful and dangerous button batteries can be, 13 Investigates conducted an experiment in which a 3-volt, 20-millimeter button battery was placed inside of a hotdog. Within seconds, a crackling noise from within the hotdog showed the battery had begun to release an
electrical charge that triggered a strong chemical reaction. After five minutes, the battery had started to burn a hole in the hotdog. And 24 hours later, nearly half of the hotdog (closest to the battery) had turned black from the chemical reaction, and the button battery had burned a much deeper hole into the meat.

Every minute counts

"That's exactly what's going to happen if a [button] battery is swallowed by a child. It's the same idea," said Litovitz. "So you only have two hours to get a battery out of a child before they have the potential of having serious, damaging results."

"Time is crucial," added Dr. Tres Sherer, medical director at the Riley Pediatric Trauma Center, which recently started tracking incidents involving children who swallow button batteries.

"It's truly catastrophic. We consider it a critical emergency, which means as soon as they hit the door, we're getting ready to get that kid to the operating room to get the battery out," Sherer said. "Without immediate medical care, within 24 hours a child can die."

But parents often do not realize if a child has swallowed a button battery — until it is too late.

"That's where it gets to be very, very, very tricky," Litovitz said. "And that's why prevention is really the best solution here."

Prevention means keeping button batteries away from your children. Products made specifically for kids are required by federal law to have a secure battery compartment. But common items such as remote controls and musical greeting cards allow children easy access to the battery inside, and statistics show that is how most children get their hands -- and mouths-- on a button battery.

Calling for change

"We believe there should be warnings on these batteries and there should be warnings on the items they are in," said Cara George, whose daughter Brenna swallowed a button battery in 2009. "They're deadly and they're dangerous and they're everywhere."

Litovitz agrees. She's says the batteries need to be safer, and for years she's been asking the electronics industry to make changes.

"We think it's necessary because 62% of children who are getting access to batteries are getting them from the product. That number could be greatly diminished if the industry secured the battery compartment," Litovitz told Eyewitness News.

The electronics industry and battery industry both admit the problem deserves immediate attention, and they tell 13 Investigates they're looking for ways to fix it.

"This is an urgent problem that needs action and a comprehensive approach," said Mark Kohorst, a senior safety manager for the National Electrical Manufacturers Association, an industry trade group representing battery makers. "We support any design changes involving [safer] batteries, but that's a very difficult design problem."

NEMA believes the danger is best addressed through multiple action steps: educating consumers about the risk button batteries pose to children, training medical personnel to recognize and properly treat battery ingestions, placing warning labels and tamper-proof features on battery packaging, and encouraging electronics manufacturers to change the design of their products.

"We've sent companies a letter that strongly urges them to make those batteries inaccessible," Kohorst said.

This spring, representatives from NEMA, the Consumer Product Safety Commission, the American Academy of Pediatrics, the National Capital Poison Center, the Consumer Electronics Association (CEA), Underwriters Laboratories, Consumers Union, and Hallmark (greeting cards) met at CPSC headquarters in Maryland to address the issue. 13 Investigates has learned electronics makers at the meeting presented several new designs for remote controls featuring more secure battery compartments that would help prevent accessibility to and ingestion of button batteries.

CEA also created a working group that is making recommendations to Underwriters Laboratories for new safety requirements that would affect devices that use the batteries.

"The CEA group wants to take a hazard based approach to limiting access to the battery compartment for products that utilize button cell batteries while retaining flexibility for product design," said CEA spokeswoman Megan Hayes. "The industry would like to see a flexible approach that allows either for the requirement of the use of a tool to access the button cell battery compartment or an alternative approach that would be as secure but allow for design flexibility."

What you should do

In the meantime, if you have button batteries around your house, or products that use them, Dr. Sherer offers this advice:

"Keep them under lock and key. Kids put things in their mouths all the time," he said.

Other steps parents are encouraged to take:

- Search your home for button batteries. If you find loose ones lying around, lock them in a safe place out of reach of children.
- Check electronic devices in your home to determine which ones contain button batteries. If you find any devices with batteries that are easy to access, cover the battery compartment with duct tape to keep it more secure.
• Do not leave musical greeting cards or flashing jewelry within reach of young children.
• If you suspect your child has swallowed a button battery, get to an emergency room quickly.
  Doctors must quickly perform an X-ray to determine if battery ingestion has occurred and if the battery has passed through the esophagus to the stomach. If the battery is stuck in the esophagus, it should be removed immediately to prevent serious injury. Do not wait for symptoms to develop before getting an X-ray.

Important phone numbers:
• Indiana Poison Control emergency hotline 1-800-222-1222
• 24-hour National Button Battery Ingestion Hotline 202-625-3333
• Take the button battery quiz!

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