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For Very Young, Peril Lurks in Lithium Cell Batteries

By [TARA PARKER-POPE](#)

Last fall, 13-month-old Aidan Truett of Hamilton, Ohio, developed what [Stuart Bradford](#) seemed like an [upper respiratory infection](#). He lost interest in food and vomited a few times, but doctors attributed it to a virus. After nine days of severe symptoms and more doctor visits, the hospital finally ordered an [X-ray](#) to look for [pneumonia](#).

What they found instead was totally unexpected. The child had ingested a “button” battery, one of those flat silver discs used to power remote controls, toys, musical greeting cards, bathroom scales and other home electronics.

The battery was surgically removed the next day, and Aidan was sent home. But what neither the doctors nor his parents realized was that the damage had been done. The battery’s current had set off a chemical reaction in the child’s esophagus, burning through both the esophageal wall and attacking the aorta. Two days after the battery was removed, Aidan began coughing blood, and soon died from his injuries.

To this day, Aidan’s parents don’t know where the battery came from. “This is something I would never want another parent to live with,” said Michelle Truett, Aidan’s mother. “I was oblivious as to how dangerous they were, and I want more people to know the danger.”

Such deaths are extremely rare. There were fewer than 10 documented during the last six years. But ingestion of lithium cell batteries, which children may mistake for candy and elderly adults for medication, is a surprisingly common problem, documented this week in two reports in the medical journal *Pediatrics*.

About 3,500 cases of button cell battery ingestion are reported annually to poison control centers. But while swallowing batteries has occurred for years, the development of larger, stronger lithium cell batteries has increased the risk of severe complications.

Data from the National Capital Poison Center in Washington found a sevenfold increase in severe complications from button cell ingestions in recent years. Moderate to severe cases have risen from less than a half percent (about a dozen cases per year) to about 3 percent (nearly 100 cases per year), based on a review of 56,000 cases since 1985.

Among the serious complications, the chemical reaction triggered by the batteries can damage vocal cords, leaving children with a lifelong whisper. Damage to the gastrointestinal tract means some children require feeding tubes and multiple surgeries. “The injuries are so much more serious,” said Dr. Toby Litovitz, director and lead author of both articles in *Pediatrics*. “It’s like drain opener or lye. It’s not something you want in the esophagus of your child.”

The batteries that pose the greatest risk are those that begin with the number 20, which stands for 20

millimeters. They are newer and stronger than older models. Batteries numbered 2032, 2025 and 2016 are responsible for more than 90 percent of serious injuries.

“Industry has shifted to this battery, and it has very popular appeal,” Dr. Litovitz said. “There are a lot of reasons why we want to use this battery, but the problem is we’ve got to use it in a safer way.” Federal safety rules require toys that use the batteries to have battery compartments that are locked with screws. But devices intended for adults — like bathroom scales and remote controls — often hold the batteries in with a simple plastic cover that can fall off or be removed easily.

That’s what happened when 13-month-old Kaiden Vasquez of Bristow, Va., picked up the remote control to his parent’s iPod docking station. Somehow, he dislodged the battery and swallowed it. But his parents did not notice the missing battery when he began crying hysterically and could not be calmed. Emergency room doctors diagnosed a stomach flu, but a week later the child’s pediatrician took an X-ray and saw what he thought was a quarter. When the round item was removed, doctors discovered the battery and kept Kaiden for observation. The battery had burned a hole in his esophagus and trachea and he required a feeding tube and two months of home nursing care.

Kaiden, who will be 3 in July, has recovered, although severe reflux after the incident damaged his teeth. “I don’t allow any of those disc batteries into my home,” said Kaiden’s mother, Amy Vasquez, who has three other young children. “I never thought a remote would do so much damage to my child.”

Battery ingestion is also a problem among the elderly, who often mistake hearing aid batteries for medication. But in those cases, the battery typically doesn’t get stuck because the digestive tract is larger and the battery used in hearing aids is smaller.

When children ingest batteries, it’s usually not because they found one loose in the home. In 60 percent of the cases involving children under age 6, the child has removed the battery from the electronic device. The problem is that most parents are not even aware when it happens, yet studies show the battery begins to cause severe damage within just two hours of ingestion. “It’s really a tight timeline, because a lot of these cases aren’t witnessed,” Dr. Litovitz said. “Children present with symptoms that are nonspecific, the parent doesn’t know the battery was ingested — that makes it difficult for the doctor to diagnose.”

Dr. Litovitz said the problem needed to be addressed by manufacturers of electronic products, who should secure the battery compartments in all devices, not just toys.

“Children have ready access to remote controls, watches, garage door openers,” she said. “Our major pitch is to get the industry to do something about the battery compartment, but parents also need to know that they need to be dealing with these batteries with a lot more vigilance and keeping them out of reach of the child.”

Cara George of Littleton, Colo., has been working to raise awareness about lithium batteries ever since her 18-month-old daughter, Brenna, died after ingesting one nearly two years ago. “I want to raise awareness for parents, for doctors, for the community,” she said. “I think there should be warnings on every item the batteries are in. They are in greeting cards and children’s books that talk. They’re everywhere.”

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