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## Small batteries pose life-threatening risks

New Castle child swallowed discarded item leading to days of surgeries, feeding tube

BY KELLY BOTHUM  
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No one knows exactly how Natalie Fulton found the quarter-size battery in the trash can or when the buttonlike object wound up in her mouth.

But her family will never forget what happened after they found out the battery had lodged itself in Natalie's esophagus and burned through to her trachea. The 17-month-old was admitted to the hospital, where she had seven operations in six days. Part of her esophagus was removed. During that time, a machine took over the work of her heart and lungs.

Natalie spent four weeks in Alfred I. duPont Hospital for Children in Rockland before she was discharged in February. These days, the 19-month-old is back to her boisterous self, although a popsicle is about the only food she's allowed by mouth. Since part of her esophagus was removed, she gets nourishment from a feeding tube inserted into her stomach.

What happened to Natalie is a worst-case scenario, but it's a reminder of the dangers of these round batteries, found commonly in watches, hearing aids, toys and other electronic equipment, said her mother, Kim Rivera.

"Words can't describe how frightening it is to have the doctor tell you your daughter might not make it," Rivera said. "It kills me to think this was all caused by a battery."

There were 3,511 cases of people ingesting disc batteries in 2004, according to the National Button Battery Ingestion Hotline and Registry.

People who use disc batteries should be sure they dispose of them of in a way that ensures babies, animals or any other beings can't get to them, said Rose Ann Soloway, clinical toxicologist at the National Capital Poison Control Center. The Washington-based organization operates the button battery

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THE NEWS JOURNAL/JENNIFER CORBETT

**A few weeks after her ordeal, Natalie Fulton eats a popsicle on her tire swing. Popsicles are the only food the child is allowed to eat by mouth; she receives her nutrition through a feeding tube inserted into her stomach since she swallowed a battery that got stuck in her esophagus and burned a hole into it.**

### IF YOU SUSPECT SOMEONE HAS SWALLOWED A BUTTON BATTERY

- Get medical help immediately.
- You also can call the 24-hour National Button Battery Ingestion Hot Line at (202) 625-3333 -- you can call collect -- or the Poison Control Center at (800) 222-1222.

Most batteries pass through the gastrointestinal tract without problems, but there is a chance of serious damage if they lodge in the esophagus. They may adhere to tissue and leak. The electrical current passing through adjacent tissue also can cause chemical burns.

An X-ray is needed to determine if the the battery has gone into the stomach. If it has, it will pass on its own, although that may take days. If it is stuck in the esophagus, the battery must be removed immediately. Serious injury can occur in an hour.

Symptoms of swallowing a disc battery include vomiting, low-grade fever, drooling, difficulty breathing and a rash. In most cases, battery removal is done with an endoscope, a device used to look inside a body cavity or organ.

*Source: National Capital Poison Center*

### ABOUT BUTTON BATTERIES

Button or disc batteries power lots of electronics these days, including hearing aids, watches and kids' toys. They range from

hot line.

"Maybe that means you put them into another container that's taped closed before you put them in the trash," she said. "It is important that they're not just tossed loosely into the trash."

In most cases, the battery passes through the gastrointestinal tract and out of the body without any problems.

Natalie wasn't so lucky.

### **More than a cough**

Her parents figured a cold was the reason for her nagging cough in late January. But days later, Natalie seemed worse. She had a fever, wouldn't eat and didn't want to play.

The only position Natalie felt comfortable was sitting up at an angle.

Worried, Rivera took her daughter to the emergency room at Christiana Hospital at 5 a.m. Once at the hospital, doctors discovered her oxygen level was dropping. An X-ray showed something was lodged in her esophagus.

It was round, but probably not a coin. They suspected the object was a battery.

Rivera froze with fear. Earlier in the week, she had swapped the battery in the family's digital thermometer. She dropped the old battery in the trash and forgot about it.

Sometime after that -- no one knows when -- Natalie must have discovered the battery and swallowed it.

Doctors at duPont Hospital removed the battery from her esophagus -- the food pipe between the mouth and stomach - - but by then, the damage had been done. An endoscopy revealed thermal burns had caused a perforation in her esophagus.

Her situation was bad enough, then it got worse.

During the next day, the hole in her esophagus grew and extended to the trachea, the tube bringing air to the lungs. The esophagus and trachea are two separate tubes next to each other in the chest. Normally, they aren't connected. But because of the battery damage, an opening was created between the trachea and esophagus.

The larger the opening in her trachea got, the harder it was for Natalie to breathe. Eventually, it grew so large that every time she breathed, air escaped through the hole rather than going into her lungs, said Dr. Christian Pizarro, a

the size of an aspirin to that of a quarter. Because of their small size, they are easily swallowed. Sixty-two percent of battery ingestions involve children younger than 5. But adults also accidentally swallow button batteries, especially elderly people who hold them in their mouth while changing a watch or hearing-aid battery.

cardiothoracic surgeon at the children's hospital. The problem became so critical, the toddler had to be sedated and hooked up to a machine that did the work of her heart and lungs to keep her alive.

Because of the hole in her esophagus, fluid from there leaked into the space between her lungs, where the heart is located. The leakage caused an infection.

To save Natalie's life, surgeons removed the middle third of Natalie's esophagus and repaired the wall of her trachea using tissue from inside her chest cavity. She also had another surgery to create an opening in her neck for the upper portion of her esophagus to drain saliva.

Doctors were in and out of Natalie's room at all hours, monitoring her precarious situation. It was a nightmare for Natalie's parents, who stayed by her bedside in the intensive-care unit during the ordeal.

"The first week, it was really bad," Rivera said. "A lot of her surgeries weren't planned. It didn't matter what time of day it was, they did it."

### **Finally, good news**

Once the surgeries were completed, the next challenge for Natalie was to breathe again on her own, Pizarro said.

Two days after the operation on her trachea, Natalie was taken off the heart-lung machine. Her condition steadily improved after that. A month after her hospitalization, she was discharged to her exhausted but relieved parents.

Natalie still faces more surgery related to the button-battery fiasco. Another operation, scheduled for next month, will reconstruct her esophagus with the hope she will eventually be able to eat again.

Rivera said her daughter is glad to be back with her two older brothers, Nathan, 4, and Tyler, 9, in the family's New Castle home, even if she can't eat normally yet.

Although doctors in the emergency room have seen patients who swallowed coins or other objects, no one at the hospital had ever seen a case of this magnitude, Pizarro said.

The surgeon said he was so shocked by what happened to Natalie, he went home and made sure similar batteries were out of reach of his young children. He hopes other parents will take similar measures to prevent another accident like Natalie's.

"This was a disaster," he said. "The odds were against her."

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