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Dry cell battery poisoning

Dry cell batteries are a common type of power source. Tiny dry cell batteries are sometimes called button batteries.

This article discusses the harmful effects from swallowing a dry cell battery (including button batteries) or breathing in large amounts of dust or smoke from burning batteries.

This article is for information only. DO NOT use it to treat or manage an actual poison exposure. If you or someone you are with has an exposure, call your local emergency number (such as 911), or your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States.

Poisonous Ingredient

Acidic dry cell batteries contain:

- Manganese dioxide
- Ammonium chloride

Alkaline dry cell batteries contain:

- Sodium hydroxide
- Potassium hydroxide

Lithium dioxide dry cell batteries contain:

- Manganese dioxide

Where Found

Dry cell batteries are used to power a variety of different items. Small dry cell batteries may be used to power watches and calculators, while larger ones (for example, size "D" batteries) can be used in items such as flashlights.

Symptoms

Symptoms depend on the type and size of the battery, and whether or not the battery has leaked chemicals.

Symptoms of acidic dry cell battery poisoning include:

- Decreased mental ability
- Irritation or burns in the mouth
- Muscle cramps
- Slurred speech
- Swelling of the lower legs, ankles, or feet
- Spastic walk
- Tremor
- Weakness

Symptoms that can result from breathing in large amounts of the acidic battery fumes, or contents, dust, and smoke from burning batteries include:

- Bronchial irritation and cough
- Decreased mental ability
- Difficulty sleeping
- Headache
- Muscle cramps
- Numbness of the fingers or toes
- Itching skin
- Pneumonia (from irritation and blockage of the airways)
- Slurred speech
- Spastic walk
- Weakness in the legs

Symptoms of alkaline battery poisoning may include:

- Abdominal pain
- Breathing difficulty from throat swelling
- Diarrhea
- Drooling
- Rapid drop in blood pressure (shock)
- Throat pain
- Vomiting

Home Care

Immediate emergency treatment is needed after a battery is swallowed.

Get medical help right away. DO NOT make a person throw up unless told to do so by poison control or a health care provider. Immediately give the person water or milk, unless instructed otherwise by poison control or a provider.

If the person breathed in fumes from the battery, immediately move them to fresh air.

If the battery broke and contents touched the eyes or skin, wash the area with water for 15 minutes.

Before Calling Emergency

Get the following information:

- Person's age, weight, and condition
- Type of battery
- Time it was swallowed
- Amount swallowed

Poison Control

Your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States. This national hotline will let you talk to experts in poisoning. They will give you further instructions.

This is a free and confidential service. All local poison control centers in the United States use this national number. You should call if you have any questions about poisoning or poison prevention. It does NOT need to be an emergency. You can call for any reason, 24 hours a day, 7 days a week.

What to Expect at the Emergency Room

Take the battery with you to the hospital, if possible.

The provider will measure and monitor the person's vital signs, including temperature, pulse, breathing rate, and blood pressure.

The person will need immediate x-rays to make sure the battery is not stuck in the esophagus. Most swallowed batteries that pass through the esophagus will pass in the stool without complication. However, if a battery gets stuck in the esophagus, it can cause a hole in the esophagus very quickly.

The person may receive:

- Blood and urine tests
- Breathing support, including oxygen through a tube from the mouth into the lungs, and a breathing machine (ventilator)
- Bronchoscopy -- camera and tube placed down the throat into the lungs and airways to remove a battery that is stuck in the respiratory tract
- Fluids through a vein (by IV)
- Medicine (antidote) to reverse the effect of the poison and treat symptoms

- Upper endoscopy -- a tube and camera through the mouth into the esophagus and stomach to remove a battery stuck in the swallowing tube (esophagus)
- X-rays to look for the battery

Symptoms will be treated as appropriate.

Outlook (Prognosis)

How well a person does depends on the amount of poison swallowed and how quickly treatment was received. The faster a person gets medical help, the better the chance for recovery. Full recovery is often possible if treated quickly.

Serious problems are most often seen following industrial accidents. Most household exposures (such as licking some liquid from a leaking battery or swallowing a button battery) are minor. If a large battery does not pass through the intestinal tract within a limited period of time and is causing bowel blockage or threatens to leak, a surgical procedure with general anesthesia may be needed.

Alternative Names

Batteries - dry cell

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Review Date 11/2/2023

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