



To: All Washington State Emergency Departments
From: William T. Hurley, MD, FACEP
Medical Director, Washington Poison Center
Date: 12/24/2013
Subject: Button Battery- not your typical foreign body!

I. Over recent years, the power of disc or button batteries has risen by more than 100%. Injury occurs by three mechanisms:

- 1) Electrolytic current producing alkaline hydroxide
- 2) Leakage of alkaline fluid from the battery
- 3) Pressure on adjacent tissue

The mucosal injury starts within minutes of mucosal contact and full thickness injury can occur as little as 2 hours after ingestion.

II. Most serious battery ingestions are not witnessed. Consider the possibility of battery ingestion in every patient with:

- | | |
|----------------------------|--|
| ▪ airway obstruction | ▪ abdominal pain |
| ▪ wheezing | ▪ difficulty swallowing |
| ▪ drooling | ▪ decreased appetite or refusal to eat |
| ▪ vomiting | ▪ coughing, choking |
| ▪ chest pain or discomfort | ▪ gagging with eating or drinking |

Suspect battery ingestion in every presumed foreign body ingestion. Carefully observe for the battery's double-rim or halo-effect on AP radiograph or step off on the lateral view.

III. X-rays obtained to locate the battery should include the entire esophagus, neck and abdomen. Batteries located above the range of the x-ray have been missed, as have batteries assumed to be coins or cardiac monitor electrodes. Obtain both AP and lateral x-rays for batteries in the esophagus to determine orientation of the positive and negative poles. On the lateral film, the step-off is on the negative side of the battery.

IV. *All patients with suspected button battery ingestion should be evaluated in the Emergency Department. Patient should remain NPO until the location of the battery is established or ruled out.*

Contact the poison center at 800-222-1222 for recommendations regarding when removal or, if appropriate, observation is necessary. A faxed copy of our *Disc Battery Treatment Guideline* is always available.

If you have questions about this topic or any suspected poisoning case in your area, please contact the Washington Poison Center at 1-800-222-1222. We have nurses, pharmacists, poison specialists, & Medical Toxicologists available 24/7.