



# Poison HOTLINE

Partnership between Iowa Health System and  
University of Iowa Hospitals and Clinics

January 2013



## Did you know .....

For the past year there has been a shortage of intravenous sodium bicarbonate. Sodium bicarbonate is frequently used in toxicology to treat sodium channel blockade from numerous pharmaceuticals (e.g. tricyclic antidepressants), and to alkalinize the serum and/or urine in salicylate, methanol and ethylene glycol poisoning. Sodium acetate has been substituted for sodium bicarbonate, but there are no studies addressing the use of sodium acetate in poisonings and overdoses. Acetazolamide, a carbonic anhydrase inhibitor, should **never** be used to alkalinize the urine since it produces a concurrent metabolic acidosis.

## Whole bowel irrigation

Whole bowel irrigation (WBI) is one form of gastrointestinal decontamination used to treat the acutely poisoned patient. The goal of WBI is to clean certain specific toxins out of the bowel before they are absorbed into the body. WBI is achieved by the oral or NG-tube administration of large amounts of an osmotically-balanced polyethylene glycol and electrolyte solution (PEG-ES) which induces a large volume of liquid stool. This results in removal of all of the contents of the GI tract and may potentially reduce drug absorption from the bowel. The PEG-ES is formulated to minimize the chance of causing abnormalities in the electrolyte levels and water balance in the patient.

WBI should be considered for patients who present with a potentially toxic ingestion of the following: sustained-release drugs, enteric-coated drugs, iron tablets, or packets of illicit drugs. WBI should not be used routinely for treatment of the acutely poisoned patient, but may be beneficial in a limited number of toxic ingestions.

WBI is contraindicated in any patient with an unprotected airway. This includes patients who are drowsy or could become comatose as a result of the drug ingested. Endotracheal intubation does not guarantee against aspiration. WBI should also not be used in patients who are seizing or may seize in the near future, patients with a bowel obstruction or perforation, and those patients who have uncontrolled vomiting.

Complications that may be seen as a result of WBI include nausea, vomiting, and abdominal cramping. Vomiting the PEG-ES is more likely to occur if the patient has ingested a substance which is likely to cause vomiting. Patients with an unprotected airway are at risk for pulmonary aspiration during WBI.

There is no conclusive evidence that WBI will improve the outcome of the poisoned patient. Furthermore, the concurrent administration of activated charcoal and WBI may decrease the effectiveness of the activated charcoal.

For questions regarding the use of whole bowel irrigation as a method of GI decontamination, contact the specialists at the Iowa Statewide Poison Control Center at 1-800-222-1222.

*Shari Stanwick, RN  
Specialist in Poison Information*

**POISON**  
**Help**  
**1-800-222-1222**

The logo for Poison Help. It features the word "POISON" in a bold, black, sans-serif font at the top. Below it, the word "Help" is written in a large, bold, black, sans-serif font. To the right of the letter "e" in "Help" is a red pill bottle with a white cap and a white skull and crossbones symbol on its side. Below "Help" is the phone number "1-800-222-1222" in a bold, black, sans-serif font.

Post and share this edition of **Poison Hotline** with your colleagues. Send comments or questions to Poison Hotline, 712-234-8775 (fax) or [nobletf@ihs.org](mailto:nobletf@ihs.org). To subscribe or unsubscribe from this distribution list, contact the Iowa Poison Center education office at 712-279-3717. Read past issues of **Poison Hotline** at [www.iowapoison.org](http://www.iowapoison.org).