

Judith K. Lucas

76.1 Indications

- Whole-bowel irrigation (WBI) should not be used routinely in the management of the poisoned patient (because there is no clinical proof it will change clinical outcome).
- Ingestion of significant amount of medications.
 - Not adsorbed by activated charcoal
 - Lead, lithium, arsenic, and zinc
 - Substantial amounts of iron (high morbidity and no other effective method to gastrointestinal decontamination)
 - Sustained-release medications or enteric-coated drugs
 - Disk batteries distal to the pylorus
 - Whole transdermal patches (fentanyl, clonidine, nicotine)
 - Drug concretions
 - Ingested packets of illicit drugs
- Relative
 - Concurrent or recent administration of activated charcoal (may decrease the effectiveness of activated charcoal)

76.2 Contraindications

- Absolute
 - Bowel obstruction
 - Bowel perforation
 - Ileus
 - Hemodynamic instability
 - Compromised or unprotected airway
 - Intractable vomiting

76.3 Materials and Medications

- Topical anesthesia, although not mandatory, will reduce the pain of nasogastric (NG) tube placement.
 - 10 % lidocaine spray
 - Lidocaine gel
- Small-bore (12-French) NG tube (Fig. 76.1).
- Tape for securing the NG tube.
- Reservoir or feeding bag used for NG tube feedings (Fig. 76.2).
- Intravenous pole.
- Bedside commode or toilet (Fig. 76.3).
- Polyethylene glycol-electrolyte solution (PEG-ES) (Fig. 76.4).
- Antiemetic.
 - No absolute indication for prophylactic use
 - May be helpful if vomiting ensues during infusion
 - Metoclopramide
 - Antiemetic
 - *Increases gastric motility*

J.K. Lucas, MD
Department of Emergency Medicine,
University of Florida Health Shands Hospital,
Gainesville, FL, USA
e-mail: judithklucas@ufl.edu



Fig. 76.1 Nasogastric (NG) tube. Typically, the infusion of the lavage solution is too rapid to be taken orally, so an NG tube can be placed. Since the irrigation solution is of low viscosity, a small-bore NG tube should be used for comfort



Fig. 76.2 Bag from which the lavage solution will drain; it is similar to the bags used for gastrostomy tube feeding



Fig. 76.3 Almost always, the patient will need to be seated on or very near a portable commode, as once the irrigation solution starts to move through the bowels, defecation will occur rapidly

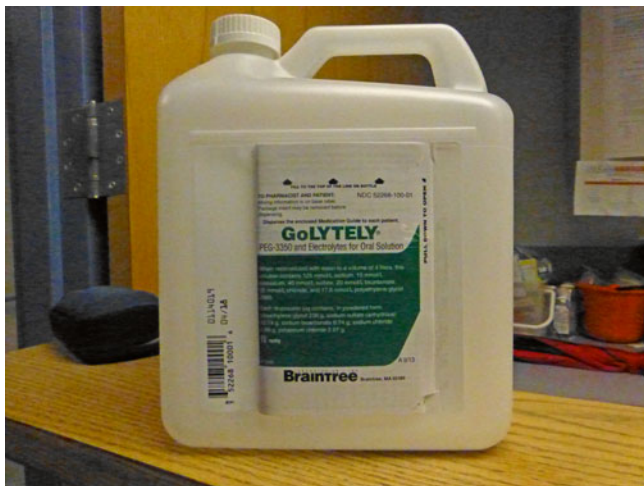


Fig. 76.4 Example brands of intestinal irrigation electrolyte solutions

76.4 Procedure

1. An NG tube is required because most patients will not drink the PEG-ES at the necessary rate.
2. Place a small-bore (12-French) NG tube to a sufficient distance that the tip lies in the central portion of the stomach.
3. Confirm NG placement with a radiograph.
4. Attach the tube to the reservoir bag of PEG-ES and hang from an elevated site (an extended intravenous pole).
5. The patient should be seated in an upright position.
 - Promotes settling of the intoxicant in the distal portion of the stomach
 - Decreases the likelihood of vomiting
6. Dosing:
 - Children 9 months to 6 years: 500 mL/h
 - Children 6–12 years: 1,000 mL/h
 - Adolescents/adults: 1,500–2,000 mL/h
7. Collect effluent.
8. Continue infusion.
 - Until the rectal effluent is the same color as the influent (i.e., clear), usually between 4 and 6 h.
 - You may continue beyond clear effluent if clinical evidence indicates ongoing effectiveness:
 - Continued pill fragments or drug packets are present in the effluent.
 - Radiographic evidence that pills, pharmacobezoars, or packets are still present.

76.5 Complications

- Nausea, vomiting, and bloating
- Misplacement of the NG tube
- Esophageal perforation owing to NG tube placement
- Aspiration pneumonitis in the unprotected airway

76.6 Pearls

- Overall, WBI is probably more effective than gastric lavage, but probably less effective than activated charcoal in preventing poison absorption (when the intoxicant can be adsorbed to charcoal).
- Vomiting.
 - Usually secondary to the ingestant (i.e., emetogenic toxins, such as iron)
 - May be due to rate of infusion
 - Slow rate by 50 % for 30–60 min.
 - Then return to original rate.
- If resistance is encountered during NG tube placement, do not force passage. Remove and redirect.

Selected Reading

- Bailey B. To decontaminate or not to decontaminate? the balance between potential risks and foreseeable benefits. *Clin Pediatr Emerg Med.* 2008;9:17–23.
- Hanhan UA. The poisoned child in the pediatric intensive care unit. *Pediatr Clin North Am.* 2008;55:669–86. xi.
- Lheureux P, Tenenbein M. Position paper: whole bowel irrigation. American Academy of Clinical Toxicology/European Association of Poison Centres and Clinical Toxicologists. *J Toxicol Clin Toxicol.* 2004;42:843–54.
- Othong R. Whole-bowel irrigation. MedScape Reference: drugs, diseases, and procedures. Updated: Aug 2011
- Postuma R. Whole bowel irrigation in pediatric patients. *J Pediatr Surg.* 1982;17:350–2.