



Poison HOTLINE

1-800-222-1222

May 2018



Did you know

Anion-gap metabolic acidosis (AGMA) may be seen with many toxic ingestions. Poison control specialists often use the mnemonic **MUDPILES** to remember a few common, but not all, toxin-induced causes of a high AGMA.

M = Methanol and Metformin

U = Uremia

D = Diabetic or Alcoholic KetoAcidosis

P = Propylene Glycol

I = Isoniazid and Iron

L = Lactic Acidosis from toxins (e.g. Cyanide, Metformin), seizures or medical causes

E = Ethylene Glycol or Ethanol

S = Salicylates (i.e. aspirin)

Note that isopropyl alcohol is metabolized to acetone, which is not an acid.

IBUPROFEN TOXICITY

Ibuprofen, a non-steroidal anti-inflammatory drug, analgesic and fever reducer, is available over the counter and by prescription. Tablet strength ranges from 100 mg to 800 mg per tablet. There are two liquid suspensions, 100 mg/5 mL (for children) and 50 mg/1.25 mL (equivalent to 200 mg/5 mL; for infants).

Ibuprofen ingestions generally produce gastrointestinal symptoms due to local irritation of the stomach and inhibition of prostaglandin synthesis. Bleeding times can become prolonged because of ibuprofen's effects on the platelets. These effects can contribute to GI bleeding. Ibuprofen can also cause sodium and water retention and be linked to renal failure. Peak serum concentrations of ibuprofen are usually achieved within 4 hours after ingestion. The peak concentration could be delayed more than 4 hours in a large ingestion.

Ingestions of ibuprofen at or below 200 mg/kg (one 200 mg tab per kg) generally present with GI complaints including nausea, vomiting and abdominal distress. With ingestions of more than 400 mg/kg symptoms can become much more severe and include tachycardia, bradycardia, seizures, apnea, coma, renal failure and, rarely, cardiopulmonary arrest. An anion-gap metabolic acidosis also will occur with large ingestions. Children are more likely to present with coma and apnea after a large ingestion.

Persons who have ingested 200 mg/kg or more of ibuprofen or who have ingested ibuprofen in an attempt at self-harm need to be evaluated by a health care provider. Recommended labs include a CMP, PT/INR and CBC, along with the routine toxicology labs of ASA, ethanol and a 4-hour-post-ingestion acetaminophen level. An ABG should be obtained if the patient is having CNS or respiratory symptoms, or is acidotic.

IV fluids can be used to treat hypotension and mild acidosis. Patient may also need vasopressors or sodium bicarbonate to treat more significant hypotension and acidosis. Benzodiazepines are recommended for seizures. Hemodialysis will not increase the clearance of ibuprofen but is indicated to correct severe metabolic and acid base abnormalities, and to treat renal failure. All patients should be monitored for a minimum of 4-6 hours post-ingestion, and patients who remain asymptomatic after that time frame are unlikely to develop significant symptoms.

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Help**
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