**Poisoning**

**1:** **As part of well-child care, discuss preventing and treating poisoning with parents (e.g., “child-proofing”, poison control number).**

* Keep items locked and out of reach/sight. Don’t refer to medicine as “candy”. Keep meds in their original containers with safety lids, don’t put them in food containers. Don’t take meds in view of children. More danger of children getting poisoned away from home (ie friends/family).
* Most commonly ingested substances are personal care products, analgesics, and cleaning products. Most commonly causing fatalities are analgesics, batteries, hydrocarbons, and plants.
* Highly hazardous medications include iron supplements, TCAs, Cardio meds, methyl saliclyate, hydrocarbons, pesticides, sulfonylureas, CCBs, toxic alcohols, clonidine, and opioids.

**2:** **In intentional poisonings (overdose) think about multi-toxin ingestion**.

* Remember, patient’s history is often unreliable – use collateral sources (paramedics, police, family, friends, pharmacist)
* Remember to ask about OTC meds, family/friends medications that might be in the house.
* Regularly screen over dose patients for presence of Acetaminophen, Salicylates with blood work
* Urine drug screen

**3**: **When assessing a patient with a potentially toxic ingestion, take a careful history about the timing and nature of the ingestion.**

* Remember, patient’s history is often unreliable – use collateral sources.
* GI decontamination has greatest benefit within 1 hour of ingestion, however, history often unreliable. Risk outweighs benefit if truly delayed presentation.
* Ask about past history, chronic meds.
* Assume “worst case scenario”

**4**: **When assessing a patient with a potential poisoning, do a focused physical examination to look for the signs of toxidromes.**

* Focus on vital signs, mental status, pupils (miosis, mydriasis, or nystagmus). Track pulse oximetry, cardiac monitoring, and ECG findings. Obtain IV access, C-spine stabilization if trauma suspected. Intubation may be required if patient unable to protect their airway, follow ACLS protocols. O2 PRN, IV fluids.
* Physiological excitation: mydriasis, tachycardia, hypertension, tachypnea, hyperthermia (caused by anticholinergics, sympathomimetics, hallucinogens, or drug withdrawl).
* Pysiological depression: miosis, depressed mental status, hypotension, bradycardia, shallow breathing, hypothermia (caused by cholinergic, sympatholytic, opiates, alcohols, or sedative-hypnotics.
* Mixed – think polydrug, hypoglycemics, toxic alcohols, heavy metals, antiarrhythmics, TCAs.
* Raised anion gap (Na – (Cl + HCO3) – MUDPILES – Methanol/Metformin, Uremia, Diabetic/Starvation/Alcoholic Ketoacidosis, Paraldehyde/Poisons, Iron/Isoniazid, Lactic Acidosis (cyanide, carbon monoxide, sulfides), Ethylene glycol, Salicylates/Sympathomimetics.

**5**: **When assessing a patient exposed (contact or ingestion) to a substance, clarify the consequences of the exposure (e.g., don’t assume it is non-toxic, call poison control).**

**6**: **When managing a toxic ingestion, utilize poison control protocols that are current.**

* O2, Naloxone, Thiamine and Glucose for altered LOC. (note, doesn’t matter order of thiamine/glucose).
* All patients should have Lytes, BUN, Creatinine, Urinalysis, Acetaminophen, Salicylates, and glucose. Sick patients should add serum osmolality, ketones, creatine kinase, liver function tests, amylase, calcium, and magnesium. BHCG in sick women of childbearing age. Depending on patient, can also add ABGs, urine crystals, etc.
* Irrigate with water/saline for topical exposures.
* Activated charcoal for decontamination (1g/kg mixed with water as a slurry). Activated charcoal superior to ipecac or gastric lavage. Contraindicated in patients with bowel obstruction, perforated bowel, decreased LOC (until intubated). Hydrocarbons not bound by AC, risks
* Hemodialysis (esp. for salicylates, ethylene glycol, methanol, lithium, acidosis or hyperkalemia).
* Most patients with toxic ingestions should be observed for 6 hours in the ED. Pts with moderate to severe toxicity should go to the ICU.
* All patients with overdose require psych risk assessment
* Antidotes:
  + Naloxone for opioids
  + Flumazenil for benzos
  + N-Acetylcystine for Tylenol (based on 4 hour or greater nomogram) Almost 100% effective if given within first 8-10 hours.
  + Urine alkylinization, glucose for ASA, Phenobarbital
  + Fomipazole/Ethanol, folic acid, +/- pyridoxine for toxic alcohols

**7: When managing a patient with a poisoning,**

**a) Assess ABC's,**

**b) Manage ABC's, Clinical Reasoning Treatment**

**c) Regularly reassess the patient’s ABC’s (i.e., do not focus**

**on antidotes and decontamination while ignoring the effect of**

**the poisoning on the patient).**

**References:**

1. UpToDate: Decontamination of Poisoned adults, General approach to drug poisoning in adults, Prevention of Poisoning in Children
2. McMaster Module: Poisoning