

Antidote Administration and Notes

1. **IV N-Acetyl Cysteine (NAC) – Acetaminophen (APAP) Overdose**
Compounded from sterile inhalation form – or via Cumberland Lab's new product
 - A. British Guidelines: 140 mg/kg IV Loading Dose
70 mg/kg IV @ 4–6 hrs x 3 Doses
Take at least an hour to administer
 - B. Cumberland Labs: 140 mg/kg IV Loading Dose
70 mg/kg IV every 4–6 hrs x 12–18 Doses
Take at least an hour to administer
 - C. WAPC urges: Minimal – Mild – Moderate Overdoses – 4 hrs <200-250
100 mg/kg IV Loading Dose – 1–2 hrs!!
50 mg/kg IV Follow-Up Doses x 3
Treat any hives, skin rash or anaphylactoid response with diphenhydramine.

2. **Charcoal – General Adsorptive Agent**
Not for heavy metals or alcohols or simple ketones or after <1 hr delay!! Give quickly.
May have to administer via oropharyngeal catheter – “stomach tube”
Adult 50 grams – Children 20 grams

3. **Atropine – Treat Cholinergic Crises – Nerve Gas and Organophosphate Pesticides**
Also toxin induced bradycardia
Organophosphate: 0.02-0.05 mg/kg every 10-20 minutes – IV & IM
Bradycardia: IV 0.02mg/kg every 5 minutes

4. **Calcium EDTA – Ethylene Diamine Tetra-Acetic Acid – Chelating Agent**
“Older” agent – minor side effects - +/- Useful for Pb, As and Hg.

5. **Calcium Gluconate > Calcium Chloride – Hypocalcemia; Fluorine Compounds**
2-15 grams per day for adults – look up precise advice.

6. **CroFab (Orphan Labs) – Snake Anti-Venom**
Protein structure broken into particles – no antigenic effects but retains antibody functions. See package insert.

7. **Cyanide Kit**
Originally marketed by Lilly – Amyl nitrite ampules 0.3 ml – for inhalation; sodium nitrite 300 mg/10ml for IV injection to be followed by 12.5 gms sodium thiosulfate in 50 ml ampule also IV. Has disposable syringes, stomach tube, tourniquet plus instructions. Washington Poison Center has had 4 successful uses – has to be started quickly.

8. **Deferrioxamine (Desferal)**
Used to chelate iron ions in the blood – does not increase renal excretion all that much but the toxic iron molecule is tied up. Administer IV 10-15 mg/kg/hr to kids or adults – See Instructions! – for iron blood levels 500 and above; Be reluctant to continue >24 hrs ?ARDS

9. **Digibind – Immune Animal Antibody – FAB Fragment**
Virtually eliminates antigenicity. For digitalis overdose – see package inserts for proposed dosages - # of vials – ranges 5-20! May have to borrow. Really works – and rare reactions.

10. **BAL – British Anti-Lewisite (Dimercaprol)**
The original chelating agent – oil preparation – even deep IM makes for tissue necrosis. Rarely used today.

11. **Ethanol – Goal to block methanol or ethylene glycol metabolism** since human body's alcohol dehydrogenase enzyme favors ethanol as substrate over the two toxins. Can give orally or as 10% IV. Look up precise dosage per units of body weight.

12. **Flumazenil (Romazicon)**
Specific antagonist for benzodiazepines but usually benzos are not life threatening. Be careful since benzo's may prove anticonvulsant during simultaneous tricyclic overdose. Used to awaken after "conscious anesthesia"; little agonistic effects; 0.2-0.5 gm every 30 seconds for adult and 0.1-0.2 mg/kg for children.

13. **Fomepizole (Antizol)**
Inactivates alcohol dehydrogenase enzyme and thus conversion of methanol or ethylene glycol to their toxic metabolites. Oral dose 15 mg/kg – with 5-10 mg/kg every 12 hrs thereafter till levels of toxins fall to <30 mg/dL. Also really works.

14. **Syrup of Ipecac – Emetic agent in syrup form**
emesis in 15 +/- minutes. Acceptable to children, too. Virtually worthless if >1 hr has transpired since ingestion of toxin – far too much absorbed. We urge home supply – eliminates trips to and delays in hospitals

15. **Methylene blue**
Useful in reversing most processes leading to methemoglobinemia. Give with Ascorbic Acid. Give Methylene blue IV 1-2 mg/kg.

16. **Oral N-Acetyl Cysteine (NAC)**
FDA approved oral form 30 years ago; bad taste; 50% +/- patients vomit it, etc. Rocky Mountain established effectiveness but no one uses its 18 follow-up doses. IV formulation appears to be taking over – as it has for rest of world.
17. **NARCAN (Naloxone)**
Very specific opioid antagonist – no agonistic effect; may have to repeat every 3-20 minutes for methadone; may play a role re: alcohol, dextromethorphan. 0.4-2mg IV.
18. **Physostigmine**
Relatively specific antidote to anti-cholinergic crises for > 30 years; usual dosage 0.2 mg IV over 1–2 minutes
19. **2-PAM (Pralidoxime)**
Designed to “rejuvenate” cholinesterase enzymes after nerve gas or organophosphate insecticide poisoning; atropine remains 1° antidote. Worldwide other related compounds may be more effective – not in US yet. Usual Adult Dose: 1-2 gms IV.
20. **Pyridoxine (Vitamin B₆)**
Specific antidote to overdose of Isoniazid (INH) and resultant seizures. Works in <2 minutes. Start with 0.5 mg/kg in Adults.
21. **DMSA (Succimer)**
Recently emerged orally, effective chelating agent authorized by FDA for lead levels in kids >45 micrograms/dL – though Boston uses above 25. Probably chelation of choice (or one of it's injectables variants) for As and Hg, too. Look up specific dosage.