

Illinois Poison Center Antidote List

Uses and Suggested Minimum Stock Quantities for Various Poison Antidotes Used for Treatment of Poisonings
Illinois Poison Center 24-hour Hot line: 1-800-222-1222

Antidote	Poison/Drug/Toxin	Suggested Minimum Stock Quantity	Rationale/Comments
N-Acetylcysteine (Mucomyst [®])	Acetaminophen Carbon tetrachloride Other hepatotoxins	600 mL in 10 mL or 30 mL vials of 20% solution	Acetaminophen is the most common drug involved in intentional and unintentional poisonings. This amount (600 mL/120 g) provides enough to treat an adult for an entire 3 day course of therapy, or enough to treat 3 adults for 24 h. Several vials may be stocked in the ED to provide a loading dose and the remaining vials in the pharmacy for the q 4 h maintenance doses.
Amyl nitrite, sodium nitrite and sodium thiosulfate (Cyanide antidote kit)	Acetonitrile Acrylonitrile Bromates (thiosulfate only) Chlorates (thiosulfate only) Cyanide (e.g., HCN, KCN and NaCN) Cyanogenic glycoside natural sources (e.g., apricot pits and peach pits) Hydrogen sulfide (nitrites only) Laetrile Mustard agents (thiosulfate only) Nitroprusside (thiosulfate only) Smoke inhalation (combustion of synthetic materials)	One to two kits	Stock one kit in the ED. Consider also stocking one kit in the pharmacy. Note: This has a short shelf life of 24 months.
Antivenin, Crotalidae Polyvalent	Pit viper envenomation (e.g., rattlesnakes, cottonmouths, timber rattlers and copperheads)	Ten vials	Stock in pharmacy. Advised in geographic areas with endemic populations of copperhead, water moccasin or eastern massasauga rattlesnakes. In low-risk areas, know nearest alternate source of antivenin. Note: 20 to 40 vials or more may be needed for moderate to severe envenomations. The antivenin must be administered in a critical care setting since it is an equine-derived product.
Antivenin, Crotalidae Polyvalent Immune Fab – Ovine (CroFab [®])	Pit viper envenomation (e.g., rattlesnakes, cottonmouths, timber rattlers and copperheads)	Four to six vials	Stock in pharmacy. Recently FDA -approved product that is a possible alternate to equine product. May have lower risk of hypersensitivity reaction than equine product. Average dose in premarketing trials was 12 vials but more may be needed. Note: Store in refrigerator. See equine antivenin also.
Antivenin, Latrodectus mactans (Black widow spider)	Black widow spider envenomation	Zero to one vial	Serious Latrodectus envenomations are rare. This product is only used for severe envenomations. Antivenin must be given in a critical care setting since it is an equine-derived product. Know the nearest source of antidote. Note: Product must be refrigerated at all times.
Atropine sulfate	Alpha ₂ agonists (e.g., clonidine, guanabenz and guanfacine) Alzheimer drugs (e.g., Donepezil, Rivastigmine, Tacrine) Antimyesthetic agents (e.g., pyridostigmine) Bradyarrhythmia-producing agents (e.g., beta blockers, calcium channel blockers and digitalis glycosides) Cholinergic agonists (e.g., bethanechol) Muscarine-containing mushrooms (e.g., Clitocybe and Inocybe) Nerve agents (e.g., sarin, soman, tabun and VX) Organophosphate and carbamate insecticides	Total 100 to 150 mg Available in various formulations: 0.4 mg/mL (1 mL, 0.4 mg ampules) 0.4 mg/mL (20 mL, 8 mg vials) 0.1 mg/mL (10 mL, 1 mg ampules)	The product should be immediately available in the ED. Some also may be stored in the pharmacy or other hospital sites, but should be easily mobilized if a severely poisoned patient needs treatment. Note: Product is necessary for adequate preparedness for a weapon of mass destruction (WMD) incident; the suggested amount may not be sufficient for mass casualty events.

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Calcium disodium EDTA (Versenate [®])	Lead Zinc salts (e.g., zinc chloride)	One 5 mL amp (200 mg/mL)	Stock in pharmacy. One vial provides one day of therapy for a child. More may be needed in lead endemic areas.
Calcium chloride and Calcium gluconate	Beta blockers Calcium channel blockers Fluoride salts (e.g., NaF) Hydrofluoric acid (HF) Hyperkalemia (not digoxin-induced) Hypermagnesemia	10% calcium chloride: fifteen 10 mL vials 10% calcium gluconate: five 10 mL vials	Stock in ED. More may be stocked in pharmacy. Many ampules of calcium chloride may be necessary in life-threatening calcium channel blocker or hydrofluoric acid poisoning.
Deferoxamine mesylate (Desferal [®])	Iron	Twelve 500 mg vials	Stock in pharmacy. Note: Per package insert, the maximum daily dose is 6 g (12 vials). However, this dose may be exceeded in serious poisonings.
Digoxin immune Fab (Digibind [®] , Digifab [®])	Cardiac glycoside-containing plants (e.g., foxglove and oleander) Digitoxin Digoxin	Ten vials	Stock in ED or pharmacy. This amount (10 vials) may be given to a digoxin-poisoned patient in whom the digoxin level is unknown. This amount would effectively neutralize a steady-state digoxin level of 14.2 ng/mL in a 70 kg patient. More may be necessary in severe intoxications. Know nearest source of additional supply.
Dimercaprol (BAL in oil)	Arsenic Copper Gold Lead Lewisite Mercury	Two 3 mL ampules (100 mg/mL)	Stock in pharmacy. This amount provides two doses of 3 to 5 mg/kg/dose given q 4 h to treat one seriously poisoned adult or provides enough to treat a 15 kg child for 24 h.
Ethanol	Ethylene glycol Methanol	4 L of 10% ethanol in D ₅ W and 1 pint of 95% ethanol	Stock in pharmacy. This amount (4 L) provides enough to treat an adult (70 kg) with a loading dose followed by a maintenance infusion for 12 h during dialysis. Note: Ethanol is unnecessary if fomepizole is stocked.
Flumazenil (Romazicon [®])	Benzodiazepines, zaleplon Zolpidem	Total 1 mg: two 5 mL vials (0.1 mg/mL)	Suggested minimum is for ED stocking. Due to risk of seizures, use with extreme caution, if at all, in poisoned patients. More may be stocked in the pharmacy for use in reversal of conscious sedation.
Folic acid and Folinic acid (Leucovorin)	Methanol Methotrexate, trimetrexate Pyrimethamine Trimethoprim	Folic acid: three 50 mg vials Folinic acid: one 50 mg vial	Stock in pharmacy. For methanol-poisoned patients with an acidosis, give 50 mg folinic acid initially, then 50 mg of folic acid q 4 h for six doses.
Fomepizole (Antizol [®])	Ethylene glycol Methanol	One 1.5 g vial Note: Available in a kit of four 1.5 g vials	Stock in pharmacy. Know where nearest alternate supply is located. One vial will provide at least one initial adult dose. Hospitals with critical care and hemodialysis capabilities may consider stocking one kit of four vials (enough to treat one patient for up to several days). Note: Product has a two-year shelf life, however, the manufacturer will replace expired product at no cost.

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Glucagon	Beta blockers Calcium channel blockers Hypoglycemia Hypoglycemic agents	Fifty 1 mg vials	Stock 20 mg in ED and remainder in pharmacy. This amount provides approximately 5 to 10 h of high-dose therapy in life-threatening beta blocker or calcium channel blocker poisoning. A protocol using high doses involving insulin/dextrose also may be considered. Consult regional PCC for guidelines.
Hyperbaric oxygen (HBO)	Carbon monoxide Carbon tetrachloride Cyanide Hydrogen sulfide Methemoglobinemia	Post the location and phone number of nearest HBO chamber.	Consult IPC to determine if HBO treatment is indicated.
Methylene blue	Methemoglobin-inducing agents including Aniline Butyl nitrite, nitrates, nitrites Dapsone Dinitrophenol Local anesthetics (e.g., benzocaine) metoclopramide Metoclopramide Monomethylhydrazine-containing mushrooms (e.g., Gyromitra) Naphthalene Nitrobenzene Phenazopyridine	Three 10 mL ampules (10 mg/mL)	Stock in pharmacy. This amount provides 3 doses of 1 to 2 mg/kg (0.1 to 0.2 mL/kg).
Nalmefene (Revex [®]) and Naloxone (Narcan [®])	ACE inhibitors Alpha ₂ agonists (e.g., clonidine, guanabenz and guanfacine) Angiotension converting enzyme (ACE) inhibitors Coma of unknown cause Imidazoline decongestants (e.g., oxymetazoline and tetrahydrozoline) Loperamide Opioids (e.g., codeine, dextromethorphan, diphenoxylate, fentanyl, heroin, meperidine, morphine and propoxyphene) Tramadol Valproic acid	Nalmefene: none required Naloxone: total 40 mg, any combination of 0.4 mg, 1 mg and 2 mg ampules	Stock 20 mg naloxone in the ED and 20 mg elsewhere in the institution. Note: Nalmefene has a longer duration of action but it offers no therapeutic advantage over a naloxone infusion.
D-Penicillamine (Cuprimine [®])	Arsenic Copper Lead Mercury	None required as an antidote. Available in bottles of 100 capsules (125 mg or 250 mg/capsule)	D-Penicillamine is no longer considered the drug of choice for heavy metal poisonings. It may be stocked in the pharmacy for other indications such as Wilson's disease or rheumatoid arthritis. D-Penicillamine may be a lower-cost alternative to Succimer in pediatric lead poisoning.
Physostigmine salicylate (Antilirium [®])	Anticholinergic alkaloid-containing plants (e.g., deadly nightshade and jimson weed) Antihistamines Atropine and other anticholinergic agents Intrathecal baclofen	Two 2 mL ampules (1 mg/mL)	Stock in ED or pharmacy. Usual adult dose is 1 to 2 mg slow IV push. Note: Duration of effect is 30 to 60 min.
Phytonadione (Vitamin K ₁) (AquaMEPHYTON [®] , Mephyton [®])	Indandione derivatives Long-acting anticoagulant rodenticides (e.g., brodifacoum and bromadiolone) Warfarin	Two 0.5 mL ampules (2 mg/mL) and two 5 mL ampules (10 mg/mL) 5 mg tablets available in packages of 10, 14, 20, 30 and 100	Stock in pharmacy.

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Pralidoxime chloride (2-PAM) (Protopam®)	Antimyesthenic agents (e.g., pyridostigmine) Nerve agents (e.g., sarin, soman, tabun and VX) Organophosphate insecticides Tacrine	Six 1 g vials	Stock in ED or pharmacy. Note: Serious intoxications may require 500 mg/h (12 g/day). Product is necessary for adequate preparedness for a weapon of mass destruction (WMD) incident; the suggested amount may not be sufficient for mass casualty events.
Protamine sulfate	Enoxaparin Heparin	Variable, consider recommendation of hospital P&T Committee Available as 5 mL amps (10 mg/mL) and 25 mL vials (250 mg/25 mL)	Stock in pharmacy.
Pyridoxine hydrochloride (Vitamin B ₆)	Acrylamide Ethylene glycol Hydrazine Isoniazid (INH) Monomethylhydrazine-containing mushrooms (e.g., Gyromitra)	Four 30 mL vials (100 mg/mL 3 g/vial) or one hundred 1 mL vials (100 mg/mL vials)	Stock in ED or pharmacy. Usual dose is 1 g pyridoxine HCl for each g of INH ingested. If amount ingested is unknown, give 5 g of pyridoxine. Repeat dose if seizures are uncontrolled. Know nearest source of additional supply. For Ethylene glycol, a dose of 100 mg/day enhances the clearance of toxic metabolite.
Sodium bicarbonate	Chlorine gas Hyperkalemia Serum Alkalinization: Agents producing a quinidine-like effect as noted by widened QRS complex on EKG (e.g., amantadine, carbamazepine, chloroquine, cocaine, diphenhydramine, flecainide, propafenone, propoxyphene, tricyclic antidepressants, quinidine and related agents) Urine Alkalinization: Weakly acidic agents (e.g., chlorophenoxy herbicides, chlorpropamide, phenobarbital and salicylates)	Twenty 50 mEq vials	Stock 10 vials in the ED and 10 vials elsewhere in the hospital.
Succimer (Chemet®)	Arsenic Lead Lewisite Mercury	One bottle of 100 capsules (100 mg/capsule)	Stock in pharmacy. FDA approved only for pediatric lead poisoning, however it has shown efficacy for other heavy metal poisonings.

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Uses and Suggested Minimum Stock Quantities for Various Adjunctive Agents Used for Treatment of Poisonings
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Adjunctive Agent	Poison/Drug/Toxin	Suggested Minimum Stock Quantity	Rationale/Comments
Benztropine mesylate (Cogentin [®])	Medications causing a dystonic reaction	Quantity determined by institution. Available in tablets of 0.5 mg, 1 mg, 2 mg (Bottles of 100 or 1,000) and in 2 mg/mL injectable ampules.	Stock in pharmacy. See diphenhydramine also.
Bromocriptine mesylate (Parlodel [®])	Medications causing neuroleptic malignant syndrome (NMS)	Quantity determined by institution. Available in 2.5 mg tablets or 5 mg capsules (Bottles of 30 or 100).	Stock in pharmacy. Bromocriptine is a centrally-acting dopamine agonist that reverses excessive dopamine blockade.
Cyproheptadine HCL (Periactin [®])	Medications causing serotonin syndrome	Quantity determined by institution. Available in 4 mg tablets (Bottles of 100, 250, 500 and 1,000).	Stock in pharmacy. Cyproheptadine HCL is a nonspecific 5-HT antagonist that has been used in the treatment of serotonin syndrome. Adult dose is 4 to 8 mg po repeated every 1 to 4 h until therapeutic effect is observed or maximum of 32 mg administered.
Dantrolene sodium (Dantrium [®])	Medications causing neuroleptic malignant syndrome (NMS) Medications causing malignant hyperthermia	Quantity determined by institution. Available in 25, 50 and 100 mg capsules (Bottles of 100 or 500) and injectable 20 mL/vial form.	Stock in pharmacy. Dantrolene sodium inhibits calcium release from the sarcoplasmic reticulum of skeletal muscle and thereby reduces rigidity.
Diazepam (Valium [®])	Chloroquine and related antimalarial drugs	Quantity determined by institution. Available in injectable 5 mg/mL and in 2mL ampules. Also in 1, 2 and 10 mL vials and in 2 mL disposable syringes.	Stock in ED and pharmacy. Diazepam is used in addition to epinephrine for patients with chloroquine toxicity (seizures, dysrhythmias, QRS widening, hypotension, circulatory collapse) or if the amount ingested is more than 5 g. Intravenous load dose 2 mg/kg over 30 minutes. Maintenance dose of 1-2 mg/kg per day for 2 to 4 days. Diazepam is also used in poisoned and nonpoisoned patients as an anticonvulsant, muscle relaxant, and antianxiety agent. Note: Adequate supply is necessary for preparedness for a weapon of mass destruction (WMD) incident.
Diphenhydramine HCL (Benadryl [®])	Medications causing a dystonic reaction	Quantity determined by institution. Available in 25 and 50 mg capsules (Bottles of 30, 100 or 1,000). Also in oral liquid formulation of 12.5 mg/5mL (4 ounce bottle) and 50 mg/mL injectable syringes.	Stock in pharmacy. In addition to its use as an anticholinergic agent, diphenhydramine is a widely used antihistamine in the management of minor or severe allergic reactions.
Insulin and dextrose	Beta blockers Calcium channel blockers (diltiazem, nifedipine, verapamil)	Quantity determined by institution. Humulin R is available as 100 units/mL in a 1.5 mL cartridge and 10 mL bottle. Dextrose 50% in water is available in 50 mL ampules and syringes and as 500, 1,000 and 2,000 mL vials.	In several anecdotal case reports, high dose insulin and dextrose therapy has reversed cardiovascular toxicity associated with calcium channel blocker overdose. Consider 10 units to 1 unit/kg regular insulin IV bolus (with 1 amp D50), then a drip at 0.5 units/kg/hr (along with a D10 drip) and titration upward until an improvement in hypotension. High-dose therapy also may be effective in severe beta blocker toxicity.

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Octreotide acetate (Sandostatin [®])	Sulfonylurea hypoglycemic agents (e.g., glipizide, glyburide)	Quantity determined by institution. Available in 1 mL ampules (0.05 mg/mL, 0.1 mg/mL, and 0.5 mg/mL) and 5 mL (1 mg/mL) multidose vials.	Stock in pharmacy. Octreotide acetate blocks the release of insulin from pancreatic beta cells that along with IV dextrose can reverse sulfonylurea-induced hypoglycemia.
Phentolamine mesylate (Regitine [®])	Catecholamine extravasation Intradigital epinephrine injection	Quantity determined by institution. Available as a 5 mg/vial powder with 1 mL diluent.	Stock in pharmacy. Phentolamine is an alpha adrenergic antagonist which will reverse vasoconstriction and peripheral ischemia associated with extravasation of adrenergic agents. When phentolamine is not available, consider using subcutaneous terbutaline sulfate (Brethine [®]).
Thiamine	Ethanol Ethylene glycol	Quantity determined by institution. Available as 100 mg/mL in 1 mL amps, 2 mL and 30 mL vials.	Parenteral thiamine precedes IV dextrose in patients with chronic ethanol abuse. Thiamine 100 mg every 6 hours enhances clearance of toxic metabolites of ethylene glycol.

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