

California Poison Control System

ANTIDOTE CHART

(For medical centers choosing to stock antidotes, the suggested Stocking Level is based on the dose needed to treat a single 100 kg patient for 8 hours and for 24 hours.* Medical centers that might expect to receive large numbers of patients in a single incident should stock larger amounts of antidotes or have an effective and efficient drug sharing/transfer procedure in place to rapidly obtain additional antidotal supplies.)

Generic / Name Brand	Indications	Notes	Suggested Stocking Level	Access Priority
Atropine	Organophosphate/ carbamate insecticide poisoning and other cholinesterase inhibitors (eg, warfare agents); bradycardia induced by a variety of toxins	May require large amounts in severe cholinesterase inhibitor poisoning. Also stocked in the Strategic National Stockpile: for mass casualties, the SNS may provide supplies for first 48 hours (coordinated by state department of health and emergency response system).	8 Hours: 100 mg <u>or</u> 13 vials (0.4 mg/mL, 20 mL each) 24 hours: 200 mg <u>or</u> 26 vials (0.4 mg/mL, 20 mL each) <i>Use preservative-free product</i>	Immediate emergency department
Antivenom, Crotalidae Polyvalent Immune-FAB(ovine)/ Cro-Fab®	Rattlesnake envenomation		8 hours: 18 vials 24 hours: 36 vials	Within 1 hour
Antivenom, Black Widow Spider/ Antivenom (Latrodectus Mactans)®	Black Widow Spider envenomation	Equine base risk of allergic hypersensitivity	8 hours: 1 vial 24 hours: 1 vial	Special Access: contact manufacturer (Merck, 800-672-6372); Merck Order Management Center, 1-800-637-2579, will drop ship up to 2 vials.
BAL(Dimercaprol)/ BAL in oil 10%®	Heavy metal poisoning	IM administration only	8 hours: 800 mg <u>or</u> 3 amps (100 mg/mL, 3 mL each) 24 hours: 2400 mg <u>or</u> 8 amps (100 mg/mL, 3 mL each)	Within 1 hour
Bicarbonate , Sodium	Sodium channel blocker ("membrane stabilizer") toxicity & urinary alkalization	IV bolus dosing for reversal of sodium channel blocker toxicity; monitor alkalemia	8 hours: 63 g (750 mEq) <u>or</u> 750 mL of 8.4% solution 24 hours: 84 g (1000 mEq) <u>or</u> 1 L of 8.4% solution	Immediate emergency department
Botulinum antitoxin/H-BAT- heptavalent	Botulism	Only available through the state health department (CA) or CDC		Special Access; CDC -1-770-488-7100; California call: 1-916-328-3605; LA call: 213-240-7941

Calcium Chloride injection	Calcium channel blocker poisoning; hypocalcemia induced by various agents	Can cause tissue necrosis if extravasation occurs – use large vein for infusion OR use calcium gluconate (see below)	8 hours: 10 gms or 10 vials (10%, 10 mL) 24 hours: 10gms or 10 vials (10%, 10 mL)	Immediate emergency department
Calcium Gluconate Powder	Hydrofluoric acid	For manufacture of topical gel	8 hours: 1 x 100 g powder bottle 24 hours: 1 x 100 g powder bottle	Within 1 hour
Calcium Gluconate injection	Hydrofluoric acid skin exposure or poisoning; hypocalcemia induced by various agents		8 hours: 30 g or 30 vials (10%, 10 mL) 24 hours: 30 g or 30 vials (10%, 10 mL)	Immediate emergency department
Calcium Gluconate gel/ Calgonate 2.5% gel®	Hydrofluoric acid dermal burns	For topical burns	8 hours: 6 x 25 gm tubes 24 hours: 10 x 25 gm tubes	Within 1 hour
Carnitine (L-Carnitine)/ Carnitor®	Hyperammonemia from valproic acid toxicity		8 hours: 10g or 10 x 1 g vials 24 hours: 20 g or 20 x 1 g vials	Within 1 hour
Cyanide Antidote Kit (Nithiodote by Hope Pharmaceuticals)	Cyanide;sodium nitroprusside toxicity	Conventional cyanide antidote: contains 1-10mL (300mg) vial of sodium nitrite, 1-50 mL (12.5G) vial of sodium thiosulfate (amyl nitrite inhalant ampules not included)	2 kits for small hospitals, 6 kits for major medical centers or stock separate supplies of sodium thiosulfate and sodium nitrite vials OR stock the Cyanokit® (hydroxocobalamin) antidote kit (see below)	Immediate emergency department
• Sodium Nitrite	Cyanide	Risk of methemoglobinemia with use.	2 x 10 mL (3%) vials; 6 vials for major medical centers <i>(Less expensive than the Cyanokit™ antidote kit)</i>	Immediate emergency department
• Sodium Thiosulfate	Cyanide; sodium nitroprusside toxicity	If used alone for cyanide toxicity, may have a slow onset of action. Thiosulfate is synergistic with sodium nitrite, and the two drugs should be used together to treat cyanide poisoning whenever possible.	2 x 50 mL (25%) vials; 6 vials for major medical centers <i>(Less expensive than the Cyanokit™ antidote kit)</i>	Immediate emergency department
Cyanokit®/ Hydroxocobalamin	Cyanide poisoning	Newer, safer and easier to use (but more expensive) than the conventional cyanide antidote kit.	8 hours: 10 g or 2 kits 24 hours: 10 g or 2 kits	Immediate emergency department
Cyproheptadine/ Periactin®, others	Mild to moderate serotonin syndrome	Anticholinergic side effects and only PO administration	8 hours: 20mg, 5 tablets (4 mg each) 24 hours: 36mg, 9 tablets (4mg each)	
Dantrolene	Malignant hyperthermia		8 hours: 1000 mg or 50 x 20 mg vials 24 hours: 2000 mg or 56 vials	Immediate emergency department

Deferiprone/ Ferriprox®	Iron overload	Oral Chelator	8 hours: 3.3 g <u>or</u> 7 x 500 mg tablets 24 hours: 9.9 g <u>or</u> 20 x 500 mg tablets	Specialty/optional
Deferoxamine/ Desferal®	Iron poisoning	IV use only	8 hours: 12 g <u>or</u> 6 x 2 g vials 24 hours: 36 g <u>or</u> 18 x 2 g vials	Within 1 hour
Digoxin Immune FAB (ovine)/ DigiFab®	Digoxin poisoning; other cardiac glycosides (eg, oleander, foxglove)	Consult with poison center regarding dosing, especially for cardiac glycosides than digoxin	8-24 hours: 15 vials	Immediate emergency department
DMSA (Succimer)/ Chemet®	Heavy metal poisoning		8 hours: 1 g <u>or</u> 10 x 100 mg capsules 24 hours: 3 g <u>or</u> 30 x 100 mg capsules	
DTPA-Calcium (Diethylenetriamine pentaacetate)/ Pentetate Calcium Trisodium injection)	Dirty bomb agents: radioactive plutonium, americium and curium	Only available through government sources. Stocked in the Strategic National Stockpile: supplies for first 48 hours coordinated by state department of health and emergency response system.	8 hours: 1 x 1 g amp 24 hours: 1 x 1 g amp	Special access - Strategic National Stockpile. The Radiation Emergency Assistance Center/Training Site (REAC/TS) can be contacted for information on use of antidote. business hours: 1-865-576-3131; after hours: 1-865-576-1005. For product acquisition contact Manufacturer: Geritrex Pharmaceuticals : 1-914-668-4003 Ext 113
DTPA-Zinc (Diethylenetriamine pentaacetate)/ Pentetate Zinc Trisodium injection)	Dirty bomb agents: radioactive plutonium, americium and curium	Only available through government sources. Stocked in the Strategic National Stockpile: supplies for first 48 hours coordinated by state department of health and emergency response system.	8 hours: 1 x 1 g amp 24 hours: 1 x 1 g amp	Special access - Strategic National Stockpile. The Radiation Emergency Assistance Center/Training Site (REAC/TS) can be contacted for information on use of antidote. business hours: 1-865-576-3131; afterhours: 1-865-576-1005. For product acquisition contact Manufacturer: Geritrex Pharmaceuticals: 1-914-668-4003 Ext 113

EDTA-Calcium/ Versenate®	Heavy metal poisoning	Note: Do not confuse with "Sodium" EDTA	8 hours: 1 g <u>or</u> 1 1000 mg/5mL amp 24 hours: 3 g <u>or</u> 3 1000 mg/5mL amps	
Ethanol IV 10% with 5% Dextrose	Ethylene glycol or methanol poisoning	Note: IV 10% ethanol product no longer manufactured; fomepizole easier to dose and monitor than ethanol	8 hours: 22 x (5-mL) vials or ampules of 98% solution for injection 24 hours: 44 x (5-mL) vials or ampules (10% solution can be prepared using 98% ethanol product)	Within 1 hour
Ethanol (oral)	Ethylene glycol or methanol poisoning	Fomepizole easier to dose and monitor than ethanol. Oral ethanol-containing beverage (eg, whiskey, vodka) can be used in an emergency situation.	8 hours: one pint 24 hours: 750mL	Within 1 hour
Flumazenil/ Romazicon®	Benzodiazepine poisoning	Use small initial dose to avoid abrupt awakening/delirium; use with caution in patients on chronic benzodiazepine therapy as withdrawal seizures may occur; use with caution in mixed drug overdoses.	8 hours: 6 mg <u>or</u> 6 x 1mg/10 mL vials 24 hours: 12 mg <u>or</u> 12 x 1 mg/10 mL vials	Immediate emergency department
Fomepizole (4-MP)/ Antizol®/ generics	Preferred antidote for ethylene glycol or methanol poisoning	Manufacturer of Antizol™ will replace expired stocks	8 hours: 1.5 g <u>or</u> 1 x 1.5mL (1g/mL) vials 24 hours: 6.0 g <u>or</u> 4 x 1.5 mL (1g/mL) vials	Within 1 hour
Glucagon	Beta blocker/calcium channel blocker poisoning	Anticipate nausea and vomiting	8 hours: 90 mg <u>or</u> 90 x 1 mg kits 24 hours: 250 mg <u>or</u> 250 x 1 mg kits	Immediate emergency department
Glucarpidase/ Voraxaze®	Methotrexate toxic levels	Use in patient with toxic levels and impaired renal function; glucarpidase may also metabolize leucovorin so stagger doses at least 2 hours.	5 vials(1000U/vial)	Specialty/optional product accessed by 1-855-786-7292
Idarucizumab/ Praxbind®	Monoclonal antibody that binds to dabigatran and its acylglucuronide metabolites and neutralizes their anticoagulant effects	Specific only for dabigatran; not effective for other oral anticoagulants	8-24 hours: 5 g or 2 x (2.5g/50 mL) vials	Immediate emergency department
Insulin	Hyperinsulinemia - euglycemia (HIE) therapy for calcium antagonist and beta- blocker poisoning	Accompany with dextrose if blood glucose < 200 mg/dL	8 hours: 1000 U <u>or</u> one vial (100 U/mL, 10mL each) 24 hours: 3000 U <u>or</u> three vials (100 U/mL, 10mL each)	Immediate emergency department

Intravenous Fat Emulsion/ Intralipid®	Lipophilic cardiotoxic drugs	Immediately after administration several laboratory tests of patient serum/blood may be uninterpretable	8-24 hours: 2500 mL of 20% <u>or</u> 3 bags (100mL each) plus 4 bags (500 mL each)	Immediate emergency department
Leucovorin calcium	Folic acid antagonists/methanol		8 hours: 300 mg (3 x 100 mg vials) 24 hours: 1000mg (10 x 100mg vials)	Within 1 hour
Methylene Blue	Methemoglobinemia		8 hours: 400 mg <u>or</u> 4 x 10 mL (10 mg/mL) amps 24 hours: 600 mg <u>or</u> 6 x 10 mL (10 mg/mL) amps	Immediate emergency department
N-Acetylcysteine (NAC) Mucomyst® or generic	Acetaminophen poisoning (oral preparation)	Use orally. Dilute at least by a 3:1 ratio.	8 hours: 28 g <u>or</u> 5 x 30mL (20%) vials 24 hours: 56 g <u>or</u> 10 x 30 mL (20%) vials	Immediate emergency department
N-Acetylcysteine (NAC) Acetadote®	Acetaminophen poisoning (IV preparation)	Note: 3 different dilutions are used for 1, 4 and 16 hour infusions. Loading dose should be infused slowly over 45-60 minutes. Generic N- acetylcysteine can be used if Acetadote® is not available (consult with poison center and administer via a micropore filter).	8 hours: 24 g <u>or</u> 4 x 30 mL (20%) vials 24 hours: 30 g <u>or</u> 5 x 30 mL (20%) vials	Within 1 hour
Naloxone/ Narcan®	Opioid overdose	Use small initial dose to avoid abrupt awakening/withdrawal	8 hours: 20 mg <u>or</u> 50 x 0.4 mg/2mL amps <u>or</u> 2 x 10 mg/10mL vials 24 hours: 40 mg <u>or</u> 4 x 10 mg/mL vials	Immediate emergency department
Octreotide acetate/ Sandostatin®	Oral sulfonylurea poisoning and meglitinide poisoning	Avoid long-acting depot products	8 hours: 200 mcg <u>or</u> 2 x 1mL (0.1mg/mL) amps 24 hours: 1000 mcg <u>or</u> 1 x 5mL (0.2mg/mL) multidose vial	Within 1 hour
Physostigmine/ Antilirium®	Anticholinergic poisoning, especially antimuscarinic delirium	Administer at low dose (0.5 mg) and slowly, over 2-5 minutes to avoid severe adverse reactions including bradycardia, asystole and seizures (Contraindicated in TCA or similar poisoning with widened QRS intervals)	8 hours: 4 mg <u>or</u> 2 x 2mL (1mg/mL) amps 24 hours: 10 mg <u>or</u> 10 x 1 mL (1 mg/mL) amps	Immediate emergency department
Potassium Iodide	Thyroid radioiodine protection	Highest risk groups for radioiodine-induced cancer are infants, children and pregnant and nursing females. Should only be used when directed by public health officials.	8-24 hours: 130 mg	Within 1 hour

Pralidoxime(2-PAM)/ Protopam®	Cholinesterase Inhibitor poisoning (organophosphate or “nerve gas”)	Also stocked in the Strategic National Stockpile: for mass casualties, local cache may provide supplies for first 48 hours coordinated by state department of health and emergency response system.	8 hours: 7 g <u>or</u> 7 x 1 gm (20 mL) vials 24 hours: 18 g <u>or</u> 18 x 1 gm (20 mL) vials	Within 1 hour
Protamine	Heparin reversal	May also partially neutralize low-molecular weight heparins	8 hours: 500 mg or 2 vials (10mg/mL, 25 mL each) 24 hours: 1250 mg or 5 vials (10mg/mL, 25 mL each)	Immediate emergency department
Prothrombin Complex Concentrate (PCC): 3 factor and 4 factor	Reversal of bleeding from anticoagulants (vitamin K antagonists, direct thrombin inhibitors, factor Xa inhibitors)	Specific reversal agents may be available (idarucizumab, andexanet alpha) and Vitamin K. Otherwise, 4 factor PCC is preferred over 3 factor. Activated prothrombin complex concentrate (APCC or FEIBA) does not contain heparin and preferred for direct thrombin inhibitors.	8-24 hours: 5,000 IU	Immediate emergency department
Prussian Blue/ Radiogardase®	Dirty bomb agents: radioactive cesium and thallium and non-radioactive thallium	Only available through government sources. Stocked in the Strategic National Stockpile: will provide supplies for first 48 hours coordinated by state department of health and emergency response system.	Minimum order is 25 bottles (30 capsules each)	Special access - Strategic National Stockpile. The Radiation Emergency Assistance Center/Training Site (REAC/TS) can be contacted for information on use of antidote. business hours: 1-865-576-3131; afterhours: 1-865-576-1005. For product acquisition contact Manufacturer: McGuff Pharmacy: 1-877-444-1133
Pyridoxine (Vitamin B₆)	Isoniazid (INH) poisoning	Large amounts needed for poisoning: 5 grams is the minimum antidotal dose used in an ingestion of an unknown amount. Note: the 30 mL vials may only be available from compounding pharmacies. The 100 mg in 1 mL vials may contain the preservative chlorobutanol.	8 hours: 9 g <u>or</u> 3 vials (100 mg/mL, 30 mL each) <u>or</u> the equivalent 24 hours: 24 g <u>or</u> 8 vials (100 mg/mL, 30 mL each) or the equivalent <i>(If possible: Use preservative free product or powder for reconstitution.)</i>	Immediate emergency department

Sugammadex (Bridion[®])	Reversal of rocuronium and vecuronium (and possibly pancuronium) neuromuscular blockade. Emergent reversal dosing depends on the depth of the paralysis and can range from 2 mg/kg up to 16 mg/kg.	This agent is used in lieu of carbamate (cholinergic) reversal agents such as neostigmine. More information here: http://reference.medscape.com/drug/bridion-sugammadex-sodium-999851#0	Available in two vial sizes: 200 mg/2 mL (100 mg/mL) in a single-dose vial for bolus injection (comes in a box of 10 vials) Or 500 mg/5 mL (100 mg/mL), in a single-dose vial for bolus injection (comes in a box of 10 vials)	Immediate- stock in areas where accidental administration of paralytics may occur (Emergency Department of Operating Room)
Uridine triacetate/ Vistogard[®]	5-FU, capecitabine poisoning	Recommended for use within 96 hours of last dose where toxicity is evident or expected; doses of up to 10 grams every 6 hours for a total of 20 doses have been well-tolerated.	8 hours: 20 g <u>or</u> 2 x 10 g packets 24 hours: 40 g or 4 x 10 g packets	Wellstat Medical : 1-800-914-0071
Vitamin K₁(Phytonadione)/ Mephyton[®] or AquaMephyton[®]	Warfarin, warfarin-based anticoagulants and super-warfarin based rodenticide poisoning	If patient is actively bleeding use fresh frozen plasma or Factor VII concentrate or prothrombin complex concentrates.	8 hours: 50 mg <u>or</u> 10 x 5 mg tabs <u>or</u> 5 x 10 mg/mL amps 24 hours: 100 mg <u>or</u> 40 x 5 mg tabs <u>or</u> 20 x 10 mg/mL amps	Immediate emergency department

Expert advice regarding use of antidotes and treatment of poisoning and overdose is available 24 hours a day, 7 days a week from the California Poison Control System.

Health Professionals: call 1-800-411-8080
Members of the public: call 1-800-222-1222

Stay Connected!

California Poison Control @poisoninfo

Text "TIPS" to 69866 to subscribe to our weekly poison prevention tips.
Order free health education materials on our website at www.calpoison.org.

*Adapted from Dart RC et al. *Annals of Emergency Medicine*. 2018; 71(3):314-325.

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