New York State Poison Center's Antidote Stocking Recommendations

Antidotes play a critical role in the care of patients with poisoning or overdose. The Poison Center (1-800-222-1222) is available 24/7, 365 days per year to provide assistance and expertise in managing poisoned patients.

The Upstate NY and New York City Poison Control Centers have compiled a list of recommendations for antidote stocking.

Drug Shortages

Drug shortages continue to impact the availability of several antidotes. For the most up to date information about drug shortages:

-The FDA website

-The American Society of Health System Pharmacists (ASHP) database

Please contact the Upstate New York Poison Center for guidance if your healthcare facility is impacted by an antidote shortage.

<u>Recommended Antidotes</u>: The Upstate New York Poison Center recommends that all hospitals stock these antidotes. We have provided our recommendation for immediate and < 60 minute availability, a suggested stock, and additional considerations for each antidote. You can contact the poison center for assistance with obtaining these antidotes or with any questions about stocking these antidotes.

Antidote	Indications	Suggested Supply 24 hours	Suggested Availability	Considerations
Acetylcysteine (NAC) - IV	Acetaminophen toxicity	42 g Suggested stock: 7 x 200 mg/mL 30 mL vials	Immediate: N < 60 min: Y	Some treatment protocols may require stocking larger quantities of acetylcysteine, refer to your institution's treatment protocol.
Acetylcysteine (NAC) - PO	Acetaminophen toxicity	60 g Suggested stock: 10 x 20% (200 mg/mL) 30 mL vials	Immediate: N < 60 min: Y	Dilute product to 5% using a soft drink, juice, or milk. Use a 1:3 ratio for diluting 20% NAC. (e.g., 5 mL 20% NAC + 15 mL juice). Administer in a cup with a lid and straw to mask smell.
Atropine	Organophosphate / carbamate poisoning Bradycardia from toxins	200 mg Suggested stock: 25 x 0.4 mg/mL 20 mL vials	Immediate: Y < 60 min: Y	If you need additional doses consider obtaining them from local EMS services. In a mass casualty event contact the poison center and the county department of health (emergency preparedness) to access emergency supplies.
Calcium chloride	Calcium channel blocker toxicity Hydrofluoric acid	10 g Suggested stock: 10 x 10% 10 mL vials	Immediate: Y < 60 min: Y	Central access is the preferred route of administration.

Calcium gluconate	Calcium channel blocker toxicity Hydrofluoric acid	30 g Suggested stock: 30 x 10% 10 mL vial	Immediate: Y < 60 min: Y	Calcium gluconate is the preferred calcium salt for peripheral administration.
Crotalidae polyvalent immune-FAB (ovine) - CroFab®	Snake envenomation	18 vials	Immediate: N < 60 min: Y	Your institution should stock either CroFab® or Anavip®, not both.
Crotalidae immune-FAB ₂ (equine) - Anavip®	Snake envenomation	24 vials	Immediate: N < 60 min: Y	Your institution should stock either CroFab® or Anavip®, not both.
Dantrolene	Malignant hyperthermia	1500 mg Suggested stock: 6 x 250 mg vials (Ryanodex®)	Immediate: Y < 60 min: Y	We recommend stocking the 250 mg vials (Ryanodex®) to allow for rapid administration of the antidote. There are also 20 mg IV vials available (Dantrium®, Revonto®, and a generic formulation).
Deferoxamine	Iron toxicity	8 g Suggested stock: 4 x 2 g vials	Immediate: N < 60 min: Y	
Digoxin immune-FAB - DigiFab®	Digoxin toxicity	15 vials	Immediate: Y < 60 min: Y	
Dimercaprol (BAL)	Heavy metals - lead, arsenic, mercury	2,400 mg Suggested stock: n/a	Immediate: N < 60 min: Y	BAL is not currently available in the United States. Succimer should be stocked and is used in place of BAL.

Fomepizole	Toxic alcohols - methanol, ethylene glycol	4.5 g Suggested stock: 3 x 1.5 g/1.5 mL vials	Immediate: N < 60 min: Y	Preferred antidote for toxic alcohols. If fomepizole is not available, ethanol should be available as an alternative treatment for patients with toxic alcohol toxicity.
Flumazenil	Benzodiazepine toxicity	5 mg Suggested stock: 10 x 0.5 mg/5 mL vials	Immediate: Y < 60 min: Y	
Glucagon	Beta-blocker toxicity	20 mg Suggested stock: 20 x 1 mg vials	Immediate: Y < 60 min: Y	Most adult patients with beta-blocker toxicity receive 5- 10 mg of glucagon. Rarely would a patient benefit from a continuous infusion, and in these cases higher doses may be needed. If your protocol includes a glucagon infusion, then we suggest stocking a supply consistent with your protocol.
Hydroxocobalamin - Cyanokit®	Cyanide toxicity	10 g Suggested stock: 2 x 5g kits	Immediate: Y < 60 min: Y	Preferred antidote for cyanide toxicity.
Insulin (High Dose Insulin)	Calcium channel blocker and beta- blocker toxicity	20,000 units regular insulin Suggested stock: 20 x 100 units/mL 10 mL vials	Immediate: N < 60 min: Y	Only regular insulin (e.g., humulin R) should be used for high dose insulin therapy. We recommend using a concentrated formulation for continuous infusions (10-20 units/mL), instead of the standard 1 unit/mL concentration, to limit fluid overload.
Leucovorin (folinic acid)	Methotrexate toxicity Methanol	1,000 mg Suggested stock: 10 x 100 mg/10 mL vials	Immediate: N < 60 min: Y	Do not confuse it with folic acid.

Levocarnitine (IV)	Valproic acid toxicity	15 g Suggested stock: 15 x 200 mg/mL 5 mL vials	Immediate: N < 60 min: Y	The IV formulation is preferred, but if it is not available the oral formulation can be used.
Lipid emulsion (20%) - IV	Local anesthetic toxicity Cardiotoxic drugs	1500 mL Suggested stock: 3 x 500mL bags 20% lipid emulsion	Immediate: Y < 60 min: Y	Intralipid® is the most common formulation reported in cases of local anesthetic and other drug related toxicities.
Methylene blue	Methemoglobinemia	600 mg Suggested stock: 12 x 50 mg/10 mL vials	Immediate: Y < 60 min: Y	
Naloxone	Opioid toxicity	48 mg Suggested stock: 20 x 0.4 mg/mL 1 mL vials and 10 x 4 mg/10 mL 10 mL vials	Immediate: Y < 60 min: Y	We recommend you also have a supply of 4 mg/0.1 mL intranasal naloxone to provide as a take-home dose for high-risk patients (e.g., recent opioid overdose, high- dose opioids, concomitant sedatives, COPD/OSA) when they are discharged.
Octreotide	Sulfonylurea toxicity	250 mcg Suggested stock: 5 x 50 mcg/mL vials	Immediate: N < 60 min: Y	
Pralidoxime (2-PAM)	Organophosphate pesticides Nerve agents (e.g., sarin gas)	18 g Suggested stock: 18 x 1 g vials	Immediate: N < 60 min: Y	In a mass casualty event contact the poison center and the county department of health (emergency preparedness) to access emergency supplies.

Physostigmine	Anticholinergic toxicity	4 mg Suggested stock: 2 x 2 mg/5 mL vials	Immediate: Y < 60 min: Y	FDA authorized temporary importation from Germany. All orders are placed through Direct Success: Distribution@DSuccess.com or 1-877- 404-3338 FDA temporary importation information: <u>https://www.fda.gov/drugs/drug-shortages/october-31-2023-temporary-importation-available-physostigmine-injection</u> If physostigmine is not available, rivastigmine is a potential alternative in select cases. Rivastigmine should be administered in consultation with the poison center.
Pyridoxine	Isoniazid (INH) toxicity	10 g Suggested stock: 100 x 100 mg/mL 1 mL vials	Immediate: Y < 60 min: Y	An adult patient often requires at least 5 grams (50 x 100 mg/mL vials).
Sodium bicarbonate	Sodium channel blocker toxicity (e.g., TCAs) Serum/urinary alkalinization	1000 mEq (84 g) Suggested stock: 20 x 8.4% (1 mEq/mL) 50 mL vials	Immediate: Y < 60 min: Y	
Sodium nitrite	Cyanide toxicity	600 mg Suggested stock: 2 Nithiodote® kits	Immediate: Y < 60 min: Y	Hydroxocobalamin is the preferred cyanide antidote. You do not need to stock Nithiodote kits or sodium nitrite if you stock hydroxocobalamin. If hydroxocobalamin is not available, we recommend stocking Nithiodote kits.

Sodium thiosulfate	Cyanide toxicity	25 g Suggested stock: 2 Nithiodote® kits	Immediate: Y < 60 min: Y	Hydroxocobalamin is the preferred cyanide antidote. You do not need to stock Nithiodote kits if you stock hydroxocobalamin. If hydroxocobalamin is not available, we recommend stocking Nithiodote kits. Sodium thiosulfate is used to treat extravasation injuries from alkylating chemotherapeutic medications (e.g., mechlorethamine, cisplatin). If your facility administers alkylating chemotherapeutic medications, then we suggest stocking 1 x 250 mg/mL 50 mL vial of sodium thiosulfate.
Succimer (DMSA) - Chemet®	Heavy metal toxicity (e.g., lead, mercury)	3 g Suggested stock: 30 x 100 mg capsules	Immediate: N < 60 min: Y	The capsules can be opened and the contents can be mixed with applesauce or Jell-O.
Thiamine	Ethylene glycol Wernicke's encephalopathy Thiamine deficiency	1,600 mg Suggested stock: 8 x 100 mg/mL 2 mL vials	Immediate: Y < 60 min: Y	
Anticoagulant/Bleeding Rev	versal Agents			
4-Factor prothrombin complex concentrate (PCC)	Reversal of bleeding from anticoagulants	4,000 units Suggested stock: 4 x 1,000 unit vials	Immediate: Y < 60 min: Y	You should refer to your institution's plan to reverse bleeding from anticoagulants. Your institution may stock prothrombin complex concentrate, andexanet alfa, and/or idarucizumab. 4-factor prothrombin complex concentrate is preferred over 3-factor prothrombin complex concentrate and activated prothrombin complex concentrate (aPCC/FEIBA), but availability may differ by institution.

Andexanet Alfa	Reversal of anti-Xa anticoagulants	1,760 mg Suggested stock: 9 x 200 mg vials	Immediate: Y < 60 min: Y	You should refer to your institution's plan to reverse bleeding from anti-Xa anticoagulants. Your institution may stock andexanet alfa, prothrombin complex concentrate, or both.
Idarucizumab	Reversal of dabigatran	5 g Suggested stock: 2 x 2.5 g vials	Immediate: Y < 60 min: Y	You should refer to your institution's plan to reverse bleeding from dabigatran. Your institution may stock idarucizumab, prothrombin complex concentrate, or both.
Phytonadione (Vitamin K1)	Reversal of vitamin- K antagonists (e.g., warfarin, anticoagulant rodenticides)	150 mg Suggested stock: 5 x 10 mg/mL 1 mL vials 20 x 5 mg oral tablets	Immediate: Y < 60 min: Y	
Protamine	Reversal of heparin and partial reversal of LMWH (e.g., enoxaparin)	500 mg Suggested stock: 10 x 10 mg/mL 5 mL vials	Immediate: Y < 60 min: Y	

<u>Suggested Antidotes</u>: Hospitals should consider stocking these antidotes. Some hospitals with high-risk patient populations (e.g., cancer treatment centers, pediatric emergency department) may benefit from stocking specific antidotes. High-risk populations and specific scenarios are described in the antidote considerations. You can contact the poison center for assistance with obtaining these antidotes or with any questions about stocking these antidotes.

Antidote	Indications	Suggested Supply 24 hours	Suggested Availability	Considerations
Cyproheptadine	Serotonin toxicity	32 mg Suggested stock: 8 x 4 mg tablets	Immediate: N < 60 min: N	
Edetate calcium disodium (CaNa2-EDTA) Do not confuse this product with "sodium" EDTA (edetate disodium)	Heavy metals - lead, cadmium, copper, zinc	3 g Suggested stock: 3 x 1 g/5 mL vials	Immediate: N < 60 min: N	If this item is not stocked, you should have a mechanism in place to obtain it within 12 - 24 hours. There have been recent shortages, but the product is currently available in the US.
Glucarpidase	Methotrexate toxicity	5,000 units Suggested stock: 5 x 1000 unit vials	Immediate: N < 60 min: N	We suggest stocking this antidote if your facility administers high-dose or intrathecal methotrexate for cancer treatments.
Uridine triacetate, grams	5-Fluorouracil, capecitabine toxicity	40 g Suggested stock: 4 x 10 g packets	Immediate: N < 60 min: N	If this item is not stocked, you should have a mechanism in place to obtain it within 12 - 24 hours. All orders are placed through: BTG Pharmaceuticals: 1-800-914-0071 BioMatrix Specialty Pharmacy: 844-374-0604

<u>Specialty Antidotes</u>: Most hospitals should not stock these antidotes. You can contact the poison center for assistance with obtaining these antidotes or with any questions about stocking these antidotes.

Antidote	Indications	Suggested Supply 24 hours	Suggested Availability	Considerations
Antivenom, Black Widow Spider - Antivenom (Latrodectus Mactans - equine)	Black widow spider envenomation	1 vial	Immediate: N < 60 min: N	 High-risk for anaphylaxis and hypersensitivity, skin testing is recommended. This product is in shortage with no reported cause or timeline. Merck is accepting drop ship orders for up to 2 vials. The FDA recently extended the expiration date from 9/22/23 to 9/22/25 on two lot numbers (T035013, U021148).
Botulinum Antitoxin	Botulism toxicity	n/a	Immediate: N < 60 min: N	Botulism antitoxin for adults (botulism antitoxin heptavalent) must be directly obtained from the CDC through the New York State Department of Health. The poison center can assist you with obtaining antitoxin. The New York State Department of Health should be contacted before the CDC. NYS DOH: 518-253-7287 CDC: 770-488-7100 Botulism antitoxin for pediatric patients under 15 months (BabyBIG®) is available through the California Department of Public Health. The poison center can assist you with obtaining antitoxin. California DPH: (510) 231-7600
Centruroides (scorpion) immune-FAB ₂ (equine) - Anascorp®	Scorpion envenomation	3 vials	Immediate: N < 60 min: N	

Prussian blue	Thallium, cesium	n/a		Contact the poison center for assistance with emergently obtaining Prussian blue.
			< 60 min: N	

We realize that depending on your geographic location or size of your hospital, that some antidotes will not be stocked. However, we strongly recommend that you have a process in place to obtain those rare antidotes promptly in the event you have a patient requiring them. Please contact the poison center with any questions about these recommendations or if you need assistance with obtaining antidotes.