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Guidelines for Stocking Emergency Antidotes

The following is a guideline for the stocking of recommended antidotes in acute care settings. The initial dose listed is the amount needed to treat an average **100 kg patient in the first eight hours**. Amounts of antidotes that should be immediately available i.e. available in the emergency department are listed. In some cases, the recommended antidote or additional stock of the antidote can be available within 60 minutes. In cases where there is a local or regional antidote sharing agreement, additional stock may be shared by participating hospitals, if appropriate arrangements are in place to dispatch the shared antidote stock in a timely manner. The amount of antidote stocked in any setting needs to be determined using variables reflecting your patient population and number of exposures frequently treated. The anticipation of further dosing after the initial dose must also be considered. It is important to remember that toxicology is a practice based largely on retrospective case studies. The use of antidotes will change as medical practice evolves and the knowledge around toxicology and antidotes expands. Contact the Poison Centre for specific patient treatment recommendations

Antidote	Poisoning Indications	Special Access Program*	Stocking Recommendations to treat ONE 100 kg person for 8 hours	Immediately available	Available within 60 minutes (access to additional stock)
Acetylcysteine (IV), g	Acetaminophen and other hepatotoxins		30 g		30 g
Atropine sulfate, mg	Carbamate and organophosphate insecticides		90 mg	45 mg	45 mg
Calcium chlorine, g Calcium gluconate, g	Calcium channel blockers, hydrofluoric acid burn		10 g 30 g	10 g 30 g	
Deferoxamine mesylate, g	Iron		12 g		1.5 g for first hour, with additional access to 10.5 g for 8 hour treatment
Dextrose (D50), g	Insulin, oral hypoglycemic agents, beta blockers, calcium channel blockers		250 g	250 g	
Digoxin immune Fab, vial	Digoxin and other cardiac glycosides		20 vials	10 vials	10 vials (additional within 1 hour)
DMPS (2,3-dimercapto-1-propane sulfate), mg	Acute arsenic, inorganic mercury, lead (with encephalopathy) (in place of dimercaprol (BAL) since this chelator is no longer available)	Yes	500 mg	500 mg	
Flumazenil, mg	Benzodiazepines (iatrogenic only)		3 mg	3 mg	
Fomepizole, g	Methanol, ethylene glycol (**Off-label use as adjunct treatment (in additional to acetylcysteine) for severe acetaminophen overdose may require additional stock)		1.5 g (1 vial) (**consider additional stock 1.5g (1 vial))	1.5 g	Remote locations prone to transportation delays require 3 g (2 vials) for toxic alcohol treatment. **Consider additional stock for severe acetaminophen overdose.
Hydroxocobalamin, g	Cyanide (**Off-label use for refractory vasoplegic shock: when stock is limited, use should be reserved for cyanide toxicity)	Yes	10 g	10 g	
Insulin Regular, U	Beta blockers, calcium channel blockers (HDIE therapy)		5000 U	1000 U	4000 U
Leucovorin, mg	Formaldehyde (formic acid), methanol (cofactor), methotrexate, trimethoprim		300 mg		300 mg
Lipid emulsion 20% (IV), mL	Lipid soluble toxins		1250 mL	1250 mL	
Methylene blue, mg	Methemoglobinemia (**Off-label use for refractory vasoplegic shock: when stock is limited, use should be reserved for methemoglobinemia)		400 mg	200 mg	200 mg

Naloxone hydrochloride, mg	Opioids, alpha-2-adrenergic agonists		20 mg	20 mg	
Octreotide, mcg	Oral hypoglycemic agents, occasionally insulin		100 mcg		100 mcg
Physostigmine, mg	Anticholinergic syndrome	Yes	4 mg		4 mg
Phytonadione (Vitamin K1), mg	Coumarin derivatives, rodenticides, warfarin		50 mg	50 mg	
Pralidoxime chloride (2-PAM), g	Organophosphate insecticides	Yes	7 g		7 g
Protamine sulfate, mg	Heparin, low molecular weight heparin (LMWH)		400 mg	400 mg	
Pyridoxine hydrochloride (Vitamin B6), g	Isoniazid (INH), Gyromitra mushroom, monomethylhydrazine, ethylene glycol (cofactor)		10 g	5 g	5 g
Sodium bicarbonate 8.4%, mEq	Tricyclic antidepressants, cocaine, and other sodium channel blocking exposures (bolus), salicylates (infusion)		1000 mEq	1000 mEq	
Thiamine, mg	Ethanol (thiamine deficiency associated with chronic alcoholism), ethylene glycol (cofactor)		500 mg	500 mg	
Adjunctive Agents (Depends on local requirements)					
Cyproheptadine, mg	Serotonin Syndrome		20 mg		20 mg
Cyclosporine (IV), mg	Cyclopeptide (Amatoxin)-containing mushroom ingestion (off-label use for rare mushroom ingestions that may occur across the province, to prevent hepatotoxicity)		500 mg		500 mg
Dantrolene, mg	Malignant Hyperthermia		800 mg	800 mg	Should be available anywhere general anaesthetic performed
Glucagon hydrochloride, mg (optional)	Beta blocker (controversial) (**High dose insulin euglycemia (HDIE) therapy and vasopressors are preferred treatments for beta blocker overdose. Some remote locations without lab (potassium and glucose) measuring capabilities cannot use HDIE therapy safely and may wish to stock additional glucagon as an adjunctive treatment option.)		10 mg (**see note: 90 mg in remote locations)	10 mg (**90 mg)	Stocking not mandatory. May choose to stock as a temporizing treatment while initiating other treatment for beta blocker overdose such as HDIE.
Levo-carnitine, g	Hyperammonemia or coma from valproic acid toxicity		9 g		9 g
Prothrombin complex concentrate (3-factor, 4-factor), IU	Reversal of acquired coagulation factor deficiency induced by vitamin K antagonists		5000 IU		Stocking as per local hospital requirements
Sodium nitrite, mg	Cyanide (2nd line agent), may be used with sodium thiosulfate		600 mg		600 mg
Sodium thiosulfate, g	Cyanide (2nd line agent), may be used with or without sodium nitrite, or may be indicated for recrudescence or add-on therapy for cyanide toxicity in addition to hydroxocobalamin		25 g		25 g
Rare Antidotes, Limited Locations Only					
Antivenin (Latrodectus mactans)	Black widow spider envenomation	Yes			Only available through OPC
Antivipmyn	Massasauga rattlesnake	Yes			Only available through Provincial Anti-Venom Depot (PADAC) or OPC
DMSA (succimer), g	Arsenic, lead, mercury	Yes (cannot be	1 g		

		approved for future use)			
Glucarpidase, U	Methotrexate toxicity	Yes	5000 U		Select hospitals only
Potassium iodide, mg	Prophylaxis for radioactive I^{131}	Yes	130 mg		Select hospitals only
Prussian blue, g	Cesium, thallium toxicity	Yes (cannot be approved for future use)	12.5 g		
Uridine triacetate, g	Fluorouracil or capecitabine toxicity	Yes	20 g		Select hospitals only

* Special Access antidotes may be ordered from Health Canada for future use. Some Special Access antidotes may not be approved for future use and require Special Access Program applications for a specific patient. Information about "future use" in this document may not be up to date and should be determined on an as needed basis through the Health Canada Special Access Program.

Canadian Antidote Guide in Acute Care Toxicology has additional details about available products in Canada as well as drug administration details. **Please contact Ontario/Manitoba/Nunavut Poison Centre for recommendations about antidote use, indications, and dosing** as these can vary from the Canadian Antidote Guide.
https://www.ciusss-capitalenationale.gouv.qc.ca/en/antidotes

References:

BC Drug & Poison Information Centre. Antidote stocking guidelines for B.C. hospitals: Updated August 2024
http://www.dpic.org/sites/default/files/AntidoteStockingGuidelines_Updated_Aug2_2024Final.pdf

Canadian Antidote Guide in Acute Care Toxicology. Canadian Association of Poison Centres.
https://www.ciusss-capitalenationale.gouv.qc.ca/en/antidotes

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