

NB: This guideline is **not** intended for use deciding whether to treat a patient with an antidote, what dose to use, or how to administer. This advice can be obtained 24/7 by contacting the National Poisons Centre on-call medical toxicologist: call 0800 764 766.

Group A (1 of 2) – Available immediately (e.g. in emergency department or other area with minimal delay)			
Drug	Used for	Example Presentation*	Minimum Recommended Stock[#]
			8h 24h
Acetylcysteine	Paracetamol	Injection, 2g/10mL per ampoule	40g
Activated charcoal	GI decontamination	Oral liquid, 200mg/mL x 250ml, 50g bottle	200g
Atropine	Organophosphates, carbamates	Injection, 600mcg/mL per ampoule	18mg (or if suitable preparation is available then 100mg [^])
Benzatropine	Dystonic reactions	Injection, 1mg/mL, 2mL ampoule	4mg
Calcium salts - Ca-Chloride or - Ca-Gluconate	Calcium channel blockers, hydrofluoric acid systemic toxicity	<i>Ca-Chloride</i> : Injection, 10% (1g/10mL; 6.8mmol/10mL Ca) per vial or <i>Ca-Gluconate</i> : Injection, 10% (1g/10mL; 2.2mmol/10mL Ca) per vial	<i>Ca-Chloride</i> : 6g or <i>Ca-Gluconate</i> : 18g
Calcium gluconate gel 2.5%	Hydrofluoric acid burn	Topical gel, 2.5% (25mg/g) 50g tube	100g
<u>Cyanide antidotes:</u> Hydroxocobalamin and Sodium thiosulfate	Cyanide	<i>Hydroxocobalamin</i> : Injection, (powder for) 5g x 1 vial per pack (e.g. Cyanokit) and <i>Sodium thiosulfate</i> : Injection, 25% (12.5g/50ml) per vial	<i>Hydroxocobalamin</i> : 10g and <i>Sodium thiosulfate</i> : 25g
Digoxin specific antibody fragments	Digoxin	Injection, (powder for) 40mg per vial	5 vials
Flumazenil	Benzodiazepines	Injection, 500mcg/5mL per ampoule	2mg

*Examples are only listed for convenience, other presentations may be substituted based on availability.

[#]Generally sufficient to treat a 100kg person; for antidotes where only one value is listed, this should be sufficient to treat most patients for the first 24 hours.

[^]Total atropine doses >100mg may be needed to reverse toxicity from organophosphates/carbamates.

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Group A (2 of 2) – Available immediately (e.g. in emergency department or other area with minimal delay)				
Drug	Used for	Example Presentation *	Minimum Recommended Stock[#]	
			8h	24h
Glucose	Hypoglycaemic agents (e.g. insulin, sulfonylureas)	Injection (e.g. dextrose 10%, dextrose 50%)	200g	600g
Idarucizumab	Dabigatran	Injection, 2.5g/50mL per vial	5g	
Insulin, neutral (high-dose)	Inotropic support in setting of cardiogenic shock (e.g. calcium channel blockers, beta blockers)	Injection, 100 units/mL, 10 mL vial (e.g. Actrapid, Humulin)	8,100 units	24,100 units
Lipid emulsion 20%	Local anaesthetics	Injection, 20% (100g/500mL) per bottle	1.5L	
Methylthioninium chloride (methylene blue)	Methaemoglobinaemia, toxic vasoplegia	Injection, 0.5% (50mg/10mL) per vial	200mg	
Naloxone	Opioids	Injection, 400mcg/mL per vial	30mg	
Physostigmine and Rivastigmine	Anticholinergic toxicity	<i>Physostigmine</i> : Injection, 2mg/5mL per vial and <i>Rivastigmine</i> : 3mg, 6mg tablets, transdermal patch 9.5mg/24h	<i>Physostigmine</i> : 4mg and <i>Rivastigmine</i> : 12mg and 1 patch	
Sodium bicarbonate 8.4%	Tricyclic antidepressants and other sodium channel blockers, urinary alkalisation	Injection, 8.4% (4.2g/50mL; 50mmol/50mL or 8.4g/100mL; 100mmol/100mL) per vial	600 mL	

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Group B – Available within 1 hour (e.g. within the hospital or nearby facility)				
Drug	Used for	Example Presentation *	Minimum Recommended Stock[#]	
			8h	24h
Dantrolene [^]	Malignant hyperthermia	Injection, (powder for) 20mg per vial	1000mg	
Desferrioxamine	Iron	Injection, (powder for) 500mg per vial	12g	36g
Folinic acid (calcium folinate)	Oral methotrexate overdose (not applicable to IV exposures)	Injection, 50mg/5mL per vial and Oral tablet, 15mg	30mg and 2 x 15mg tablets	60mg and 4 x 15mg tablets
Fomepizole (fomepizole is preferred first line) and Ethanol	Toxic alcohols (methanol, ethylene glycol, diethylene glycol)	Injection, 100% (1.5g/1.5mL) per vial and Injection, 96% v/v (9.6mL/10mL) per vial or Oral liquid 40%	<i>Fomepizole</i> : 1.5g and <i>IV Ethanol</i> 96%: 400mL or <i>Oral Ethanol</i> 40%: 900mL	<i>Fomepizole</i> : 3g and <i>IV Ethanol</i> 96%: 800mL or <i>Oral Ethanol</i> 40%: 1800mL
Levocarnitine	Sodium valproate	Injection, 1g/5mL per vial	2g	6g
Macrogol 3350 with electrolytes (polyethylene glycol)	Whole bowel irrigation	Oral liquid, any isoosmotic preparation formulated for bowel irrigation (e.g. Klean-Prep, Glycoprep, etc)	Quantity sufficient to prepare 20L of fluid	
Octreotide	Sulfonylureas	Injection, 100mcg/mL per vial	200mcg	400mcg
Phytomenadione (vit K1)	Warfarin, brodifacoum [†]	Injection, 10mg/mL per ampoule	10mg	
Protamine	Heparin	Injection, 1% (50mg/5mL)	50mg	
Pyridoxine	Isoniazid	Injection, 3g/30mL per vial	5g	

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[^]Stocking for surgical theatre considerations should supercede antidote considerations; the recommended stock only considers antidote usage.

[†]Prothrombin complex concentrates may also be required and are sourced from local blood banks.

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Group C – Available within 8 hours (e.g. available from regional store, stock on site if unlikely to be accessible within 8 hours)			
Drug	Used for	Example Presentation*	Minimum Recommended Stock to treat one 100kg person
Botulinum antitoxin heptavalent	Botulism	Injection, 20mL or 50mL vial	1 vial
Dimercaptosuccinic acid (DMSA)	Heavy metal toxicity	Oral tablet or capsule, 100mg, 200mg (e.g. Succimer)	43g for 19 day course - 3g/day first 5 days, then 2g/d for 14d
Dimercaptopropane sulphonate (DMPS)	Heavy metal toxicity	Injection, 250mg/mL (e.g. Dimaval)	15g for 5 day course - 1g first 8h, 3g for 24h - Treatment course 5 days, may need repeating
Pralidoxime [^]	Organophosphates	Injection, 2.5% (500mg/20mL) per ampoule	35g for 5 day course - 3g first 8h, 7g for 24h - Optimal treatment duration unknown, may require several days of treatment
Sea snake antivenom	Snake envenomation	Injection, 50mL vial	1 vial
Sodium calcium edetate (EDTA) [†]	Heavy metal toxicity	Injection, 50mg/mL ampoule, 200mg/mL ampoule	37.5g for a 5 day course - 7.5g for 24h - Treatment course 5 days, may need repeating

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[^]Different salt forms are available (e.g. pralidoxime iodide, pralidoxime chloride) and can be used.

[†]May NOT be substituted with non-calcium-containing EDTA formulation.

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Group D – drugs that are <u>not</u> essential for routine stocking as antidotes*	
Andexanet alpha	Penicillamine
Amyl nitrite	Pentetate calcium trisodium (DTPA)
British Anti-Lewisite (BAL, dimercaprol)	Phentolamine
Bromocriptine	Polyvalent snake antivenom
Cyproheptadine	Potassium iodide
Dicobalt edetate	Prussian blue
Fuller's earth	Redback spider antivenom
Glucagon	Silibinin
Methionine	Sodium nitrite

*Local hospital pharmacies may still choose to stock Group D medicines based on the preferences of local clinicians or for use in non-poisoning indications. However, for the purposes of this guideline, these medicines are not considered essential to stock as antidotes.

Please be sure to use this guideline with its preface document that contains important notes and information.

Questions and feedback can be sent to antidote@otago.ac.nz.

This guideline is endorsed by: