# College of Emergency Medicine and National Poisons Information Service Guideline on Antidote Availability for Emergency Departments December 2013

TOXBASE and/or the BNF should be consulted for further advice on doses and indications for antidote administration and, if necessary, the National Poisons Information Service (NPIS) should be telephoned for more patient-specific advice. Contact details for NPIS are available on TOXBASE.

The decision on the quantity of these drugs to hold will depend on the local epidemiology of poisoning

Additional drugs that are used in the poisoned patient that are widely available in ED are not listed in the table – in particular it is important to ensure that insulin, benzodiazepines (diazepam and/or lorazepam) and magnesium are immediately available in the ED.

**The following drugs should be immediately available in the ED or any area where poisoned patients are initially treated. <u>These drugs should be held in a designated storage facility</u>**
**The stock held there should be sufficient to initiate treatment (stocking guidance is in Appendix 1).**

| Drug | Indication |
|---|---|
| Acetylcysteine | Paracetamol |
| Activated charcoal | Many oral poisons |
| Atropine | Organophosphorus or carbamate insecticides |
| | Bradycardia |
| Calcium chloride | Calcium channel blockers<br>Systemic effects of hydrofluoric acid |
| Calcium gluconate<br><br>Calcium gluconate gel | Local infiltration for hydrofluoric acid<br><br>Hydrofluoric acid |
| Cyanide antidotes<br>Dicobalt edetate<br>Hydroxocobalamin (Cyanokit®)<br>Sodium nitrite<br>Sodium thiosulphate | Cyanide<br>The choice of antidote depends on the severity of poisoning, certainty of diagnosis and cause of poisoning/source of cyanide.<br>- **Oxygen** should be administered in all cases.<br>- **Dicobalt edetate** is the antidote of choice in severe cases when there is a high clinical suspicion of cyanide poisoning e.g. after cyanide salt exposure.<br>- **Hydroxocobalamin** (Cyanokit®) should be considered in smoke inhalation victims who have a severe lactic acidosis, are comatose, in cardiac arrest or have significant cardiovascular compromise<br>- **Sodium nitrite** may be used if dicobalt edetate is not available.<br>- **Sodium thiosulphate** is used generally as an adjuvant to other antidotes. |
| Flumazenil | Reversal of iatrogenic over-sedation with benzodiazepines.<br>Use with caution in patients with benzodiazepine poisoning, particularly in mixed drug overdoses. Should not be used as a "diagnostic" agent and is contraindicated in mixed tricyclic antidepressant (TCA)/ benzodiazepine overdoses and in those with a history of epilepsy. |
| Glucagon | Beta-adrenoceptor blocking drugs. Other indications e.g. calcium channel blocker (CCB) / TCA |
| Glyceryl trinitrate<br>*OR* isosorbide dinitrate | Hypertension |
| Methylthioninium chloride (methylene blue) | Methaemoglobinaemia |
| Naloxone | Opioids |
| Procyclidine injection | Dystonic reactions |
| Sodium bicarbonate 8.4% and 1.26% or 1.4% | TCAs & class Ia & Ic antiarrhythmic drugs<br>Urinary alkalinisation |
| Viper venom antiserum, European** | European adder, *Vipera berus* |

| The following drugs should be available within 1 hour (i.e. within the hospital) | |
|---|---|
| **Drug** | **Indication** |
| Calcium folinate | Methotrexate (MTX) |
| | Methanol, formic acid |
| Cyproheptadine | Serotonin syndrome |
| Dantrolene | Neuroleptic malignant syndrome (NMS) |
| | Other drug-related hyperpyrexia (consult TOXBASE) |
| Desferrioxamine | Iron |
| Digoxin specific antibody fragments (Digibind or Digifab) | Digoxin and related glycosides |
| Fomepizole (*or* Ethanol (IV or oral)) | Ethylene glycol, methanol<br>**Fomepizole is the antidote of choice** in view of the difficulty in maintaining and monitoring ethanol infusions. |
| Macrogol '3350' (polyethylene glycol) *Klean-Prep®* | Whole bowel irrigation for agents not bound by activated charcoal e.g. iron, lithium, also for bodypackers and for slow release preparations |
| Mesna *(in hospitals commonly using cyclophosphamide)* | Cyclophosphamide |
| Octreotide | Sulphonylureas |
| Phentolamine | Digital ischaemia related to injection of epinephrine |
| | Resistant hypertension caused by sympathomimetic drugs of abuse, monoamine-oxidase inhibitors (MAOIs), clonidine |
| Phytomenadione (Vitamin K1) | Vitamin K dependent anticoagulants |
| Protamine sulphate | Heparin |
| Pyridoxine, high dose injection | Isoniazid |

| **The following drugs are rarely used and can be held supra-regionally. Use should be discussed with NPIS and/or clinical toxicologist** | |
|---|---|
| Antivenoms for non-indigenous venomous animals** | Significant envenomation |
| Berlin Blue soluble (Prussian Blue) | Thallium |
| Botulinum antitoxin | Botulism |
| Dimercaprol (BAL) | Arsenic |
| Glucarpidase | Methotrexate |
| Penicillamine | Copper, Wilson's disease (**NOT** recommended for lead poisoning) |
| Pralidoxime chloride | Organophosphorus insecticides |
| Sodium calcium edetate | Heavy metals (particularly lead) |
| Succimer (DMSA) | Heavy metals (particularly lead and arsenic) |
| Unithiol (DMPS) | Heavy metals (particularly mercury) |

| ***It is not considered essential to hold the following drugs*** |
|---|
| *Benzatropine*<br>*Methionine*<br>*Physostigmine* |

*** European viper venom antiserum does not need to be held in hospitals in Northern Ireland*
****held by the pharmacy, Royal Liverpool Hospital and Guy's & St Thomas' NHS Foundation Trust*