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The National Poisons Information Service (NPIS) is a network of dedicated units commissioned by the Health Protection Agency through its Chemical Hazards and Poisons Division. The NPIS provides information on the diagnosis and management of poisoning to health professionals in the UK.



## Guide to Observations and Investigations for the Toxicology Patient



# Guide to Observations and Investigations for the Toxicology Patient

All patients should have TPR, BP, SaO <sub>2</sub> and GCS/AVPU* recorded on admission, then every 4 hours unless otherwise stated		Regular observations: the frequency of vital signs will depend on the amount ingested, time interval after ingestion and condition of the patient		Symptomatic patients may require 15 minute observations of pulse, respirations, BP, SaO <sub>2</sub> and GCS/AVPU*			All investigations should be carried out on admission, unless otherwise indicated. Medical staff should be informed of any abnormal results						OTHER INVESTIGATIONS, OBSERVATIONS AND REPEAT INVESTIGATIONS MAY BE REQUIRED TO MONITOR PROGRESS			If a drug is not listed refer to TOXBASE® <a href="http://www.toxbase.org">http://www.toxbase.org</a>	For mixed overdose refer to all drugs ingested
Substance	Risks	Regular obs, TPR, BP and SaO <sub>2</sub>	GCS/AVPU*	Regular BM stix	12 lead ECG	Continuous cardiac monitoring	Laboratory tests						Urine toxicology screen	Arterial blood gases (ABGs)	Other, e.g. drug concentration, troponin	Notes	
							Creatinine U&E	Liver function tests (LFTs)	INR	Creatine kinase (CK)	Full blood count (FBC)	Glucose					
ACE inhibitors	Hypotension	✓			✓	✓	✓										
Amfetamines	Tachycardia, ECG changes, pyrexia, agitation, convulsions	✓	✓		✓	✓	✓	✓		✓			✓	✓			◆ ABGs if symptomatic
Antihistamines	ECG changes, possible CNS depression	✓	◆		✓	✓	✓										◆ GCS if symptomatic
Antipsychotics	Tachycardia, ECG changes, dystonic reactions, hypotension	✓	◆	✓	✓	✓	✓	✓		✓							◆ GCS if symptomatic
Aspirin	Acid-base disturbances	✓	✓				✓	✓				✓		✓	◆ Salicylate		◆ ABGs if salicylate concentration >500 mg/L ◆ Repeat salicylate concentration 2 hourly until falling
Benzodiazepines	Respiratory depression, hypotension	✓	◆				✓										◆ GCS if symptomatic
Beta blockers	Hypotension, bradycardia, bronchospasm	✓	✓		✓	✓	✓					✓					
Calcium channel blockers	Arrhythmias, hypotension, bradycardia (possible tachycardia)	✓		✓	✓	✓	✓						✓	✓	Calcium		
Carbamazepine	ECG changes, ataxia, CNS depression	✓	◆		✓	✓	✓								◆ Carbamazepine		◆ GCS if symptomatic ◆ Drug concentration not urgently required except in severe cases
Cocaine	Chest pain, hypertension, myocardial infarction, convulsions	✓	✓		✓	✓	✓		✓				✓	✓	◆ Troponin		◆ Troponin and ABGs in severe cases
Co-proxamol	ECG changes, respiratory and CNS depression, hepatic and renal failure	✓	✓		✓	✓	✓	✓							◆ Paracetamol		◆ Paracetamol concentration at least 4 hours post-ingestion
Dihydrocodeine	CNS depression, hypotension, respiratory depression	✓	✓			✓	✓						✓				
Insulin	Hypoglycaemia, hypokalaemia, CNS depression, convulsions	✓	✓	✓		✓	✓					✓					
Iron	CNS depression, hepatic necrosis, bleeding	◆	◆	✓		✓	✓	✓							✓	◆ Iron	◆ Regular obs and GCS if symptomatic ◆ Repeat iron concentration if >55 micromols/L <6 hours post-ingestion
Lithium	CNS depression, arrhythmias, hypotension, renal damage	✓	✓		✓	✓	✓								✓	◆ Lithium	◆ Urgent lithium concentration. Do not use lithium-heparin tube
MDMA (Ecstasy)	Tachycardia, pyrexia, ECG changes, renal failure, hyponatraemia, convulsions	✓	✓		✓	✓	✓		✓				✓				
Mefenamic acid	Convulsions, renal failure	✓	◆				✓	✓									◆ GCS if convulsions. Ensure good urine output
Metformin	Lactic acidosis, renal failure	◆		✓			✓					✓		✓			◆ Regular obs and ABGs if large ingestion
Methadone	Respiratory and CNS depression, hypotension, bradycardia, ECG changes	✓	✓		✓	✓	✓	✓					✓	✓			◆ Consider ABGs if respiratory depression or hypoxia
NSAIDs	Impaired renal function	✓					✓										
Opiates	Respiratory and CNS depression, hypotension, bradycardia	✓	✓		✓	✓	✓	✓					✓				
Paracetamol 0-8 hours after ingestion	Hepatic and renal failure						✓	✓	✓						✓	◆ Paracetamol	◆ Bloods at least 4 hours post-ingestion
Paracetamol 8-24 hours after ingestion	Hepatic and renal failure						✓	✓	✓						✓	◆ Paracetamol	Do not delay treatment with acetylcysteine if >12 g or 150 mg/kg ingested (75 mg/kg if a risk factor is present)
Paracetamol 24-36 hours after ingestion	Hepatic and renal failure			✓			✓	✓	✓	✓	✓			✓	◆ Paracetamol	◆ Venous or arterial Do not delay treatment with acetylcysteine if >12 g or 150 mg/kg ingested (75 mg/kg if a risk factor is present)	
Paracetamol >36 hours after ingestion	Hepatic and renal failure			✓			✓	✓	✓	✓	✓			✓	◆ Paracetamol	◆ Venous or arterial Refer to TOXBASE or the NPIS for advice. Wait for blood results before starting treatment unless the patient is clearly jaundiced or has hepatic tenderness	
Paracetamol staggered (ingested over more than 1 hour)	Hepatic and renal failure			✓			✓	✓	✓		✓			✓	◆ Paracetamol	◆ Consider acetylcysteine if >150 mg/kg ingested in 24 hours (75 mg/kg if a risk factor is present) and presentation >8 hours after first dose	
Phenytoin	ECG changes, CNS depression, ataxia, hypotension	✓	✓		✓	✓	✓							✓	◆ Phenytoin	◆ Drug concentration not urgently required except in severe cases	
Sodium valproate	Hypotension, CNS depression, renal damage	✓	✓				✓	✓						✓	◆ Valproate	◆ Drug concentration not urgently required except in severe cases	
SSRIs	Pyrexia, tachycardia, drowsiness, serotonin syndrome, convulsions	✓	◆		✓	✓	✓		✓								◆ GCS if symptomatic. CK if symptomatic
Thyroxine							✓							✓	◆ Thyroxine	◆ Concentration not urgent, review 3-6 days post-ingestion	
Tricyclics	Convulsions, tachycardia, ECG changes, CNS depression, hypotension, cardiac arrest	✓	✓		✓	✓	✓	✓		✓							◆ CK if CNS depression. Monitor urine output
Unknown substance		✓	◆	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	◆ Paracetamol Salicylate	◆ GCS if symptomatic. ABGs if CNS depression	
Venlafaxine	Convulsions, tachycardia, ECG changes, CNS depression, pyrexia, hypotension or hypertension	✓	◆		✓	✓	✓	✓	✓								◆ GCS if symptomatic
Warfarin	Anticoagulation and bleeding [onset can be delayed (48-72 hours)]	✓					✓	✓	✓	✓	✓						Onset of anticoagulation can be delayed (48-72 hours)

\* AVPU: A – patient is Alert; V – responds to Verbal stimulus; P – responds to Painful stimulus; U – Unresponsive