Clinical Practice Guidelines: Toxicology and toxinology/ Approach to the poisoned patient

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Purpose	To ensure a consistent approach to the management of the poisoned patient.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Approach to the poisoned patient

February, 2021

Acute poisoning can occur from unintentional or deliberate exposure.

The initial management priorities for the poisoned patient follow usual QAS guidelines for resuscitation and standard cares. In addition, clinicians should perform a structured risk assessment to help determine ongoing treatment requirements specific to the agent involved. Decontamination may be necessary for certain toxins. The vast majority of poisoning cases require regular patient observations and support of airway, breathing and circulation. Clinicians must be vigilant in ensuring appropriate PPE is worn while managing potentially poisoned patients.

Clinical features

- Classic constellations of clinical features or 'toxidromes' are associated with specific toxic ingestions and can guide further management.

Clinical features *(cont.)*

Toxidrome	Examples of agents	Clinical signs
Cholinergic toxicity	• Organophosphates • Carbamates • Nicotine • Muscarinic • Mushrooms	• Constricted pupils • Sweating • Salivation • Bronchorrhoea • Lacrimation • Bradycardia • Agitation • Fasciculations • Coma • Seizures
Anticholinergic toxicity	• Antihistamines • Quetiapine • Olanzapine • Benztropine • Atropine • Plants (e.g. Datura)	• Dilated pupils • Hyperthermia • Agitation • Tachycardia • Dry mouth • Flushed dry skin
Opioid toxicity	• Heroin • Oxycodone • Methadone • Morphine • Fentanyl	• Constricted pupils • Respiratory depression • Sedation • Coma
Serotonin toxicity	• SSRI • SNRI • MAOI • Methamphetamine • MDMA	• Dilated pupils • Tremor • Hyperreflexia • Clonus • Hyperthermia • Agitation
Sympathomimetic toxicity	• Methamphetamine • MDMA • Cocaine • Methylphenidate	• Dilated pupils • Tachycardia • Sweating • Hyperthermia • Agitation

Risk assessment

A thorough risk assessment is crucial and can predict the expected clinical course of the exposure. Gathering empty pill packets and gaining collateral history from friends and family is especially useful and should always be performed when possible, to aid on risk assessment. The clinician should aim as quickly as possible to determine:

- Agent/s ingested
- Dose/s
- Timing of ingestion or exposure
- Any symptoms or signs which have developed
- Important patient factors (e.g. pre-existing coronary heart disease)

This information can be crucial in guiding ongoing management of the patient.

An Emergency Examination Authority (EEA) is necessary if the patient is deemed to be at an imminent risk of harm to self or others.

Additional information

- If the packaging of the suspected patient poisoning/overdose agent is able to be acquired at the scene (e.g. medication packets, poison container, etc), these must be placed in a sealable bag and taken to the hospital with the patient **if it is safe to do so** without risking contamination to self and others.

Additional information *(cont.)*

- Positive identification of the type and/or quantity of overdose agent can be extremely useful for determining the most appropriate patient management plan and antidote if appropriate.
- Call the Poisons Information Centre Hotline: 13 11 26 if there are any concerns regarding the patient's presentation and more specific information is required.
- Standard PPE is all that is required for the vast majority of toxic exposures.
- Unintentional paediatric ingestions rarely involve more than a few tablets or a mouthful of poison. However, potentially lethal paediatric ingestions [2] where all suspected exposures should be transported to hospital include:
  - Antiarrhythmics (e.g. calcium channel blockers, propranolol)
  - Anticonvulsants (e.g. lamotrigine, gabapentin)
  - Chloroquine/Hydroxychloroquine
  - Essential oils, especially eucalyptus oil
  - Gamma-hydroxybuturane (GHB)
  - Hydrocarbons
  - Opioids (e.g. methadone)
  - Organophosphates
  - Paraquat
  - Stimulants (e.g. methamphetamine, MDMA)
  - Sulfonylureas (e.g. glibenclamide, gliclazide, glimepiride, glipizide)
  - Theophylline
  - Toxic alcohols
  - Tricyclic antidepressants (TCAs)

Additional information *(cont.)*

- Patient in cardiac arrest secondary to toxicology/toxinology causes may benefit from extended resuscitation times and/or additional clinical interventions. All toxicology/toxinology patients (excluding narcotic overdoses) in cardiac arrest must be discussed with the QAS medical officer via the *QAS Clinical Consultation and Advice Line* prior to ceasing resuscitation efforts.