

Introduction

Toxicology covers a wide range of presentations including deliberate self-poisoning, recreational drug misuse and abuse, accidental poisoning, occupational exposure and envenomation. Central to the management of the toxicology patient is **risk assessment**, as it will anticipate the poisoning severity and help guide treatment.

The **toxicokinetics** of specific agents is also useful to anticipate the timing of symptom onset as well as whether the agent is amenable to techniques to ameliorate toxicity such as decontamination, enhanced elimination and the possibility of antidote therapy.

Risk Assessment

A thorough risk assessment is crucial in the approach to the toxicology patient.

Specifically:

- agent(s)
- dose
- time of ingestion
- clinical manifestations since ingestion
- patient co-morbidities

If there is a deliberate self ingestion, a mental health risk assessment should also be undertaken when appropriate.

Screening Investigations:

- An **ECG** should be performed to assess **QT** and **QRS** intervals.
- A screening **paracetamol** level should be performed in patients unable to give a reliable history.

Management

The majority of toxicological treatment involves good supportive care, however in individual poisonings there may be a role for specific antidotes, decontamination or elimination techniques to ameliorate toxicity.

Uncommonly poisonings can be life threatening and require resuscitation along standard lines, incorporating the above techniques – the specifics of which will be discussed in each module separately.

- **Resuscitation**
- **Decontamination techniques** including activated charcoal and washing skin after dermal exposure
- **Enhanced Elimination techniques** including urinary alkalinisation, multidose activated charcoal and extracorporeal methods
- **Antidote** if available
- **Supportive Measures** including observation, antiemetics, rehydration, IDC if in retention, nursing techniques to manage delirium, thromboprophylaxis and prevention of pressure areas

Disposition

All poisonings at the Princess Alexandra Hospital are managed by the Toxicology Unit and early liaison with the toxicology team is important for severe poisonings. Most symptoms of poisonings resolve in hours with good supportive care. These patients are suitable for transfer to the Short Stay Unit under the Toxicology Unit until medically appropriate for discharge. Deliberate self poisonings need a mental health assessment performed prior to discharge. Patients with more severe poisonings requiring mechanical ventilation or inotropic therapy will require ICU admission.

References

1. Murray L, Daly F, Little M and Cadogan M. 'Toxicology Handbook' 2007; Elsevier, Sydney.