

NHS Children's Acute Transport Service



Clinical Guidelines

Poisoning

Document Control Information

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1. Assessment

Ascertain the nature and time of poisoning if known. Remember hazmat procedures may apply.

Always check the National Poisons Information Service (NPIS) online database

<http://www.toxbase.org>

For further information, contact the National Poisons Information Service (**Tel 0844 892 0111**) for advice.

2. Immediate management

2.1 Initial management

- 2.1.1 Secure airway
- 2.1.2 Give high flow O₂
- 2.1.3 Heart rate, respiratory rate and respiratory pattern may give clues as to the nature of the poisoning and should be accurately recorded.
- 2.1.4 Treat shock with fluid boluses. Inotropes should be used with caution, as they may be pro-arrhythmic in combination with poisons.
- 2.1.5 Assess conscious level. Commence frequent neurological observations
- 2.1.6 An ECG should be performed for all cases of tricyclic antidepressants (TCA) overdose and where the full history of poisoning is uncertain. QRS prolongation is an early sign of cardiovascular involvement.
- 2.1.7 Urine must be sent as soon as possible for toxicology.
- 2.1.8 The possibility of more than one poison should always be considered.
- 2.1.9 **Emesis is no longer recommended and is contraindicated with volatile substances.**
- 2.1.10 Consider gut decontamination. Carefully follow Poisons Centre advice with regard to charcoal administration.

Anion Gap:

Blood gas analysis and anion gap $\{(Na^+ + K^+) - (Cl^- + HCO_3^-)\}$ should be performed. Elevated anion gap (>16) is seen with methanol, ethanol, ethylene glycol, salicylates, ketones and iron poisoning (secondary to increased lactate).

Osmolar gap:

Osmolar gap = $(2 Na + Urea + Glucose)$ – measured osmolar gap. Gap > 20 is significant. This is seen with methanol and ethylene glycol.

2.2 Specific treatments

2.2.1 Opiates: Naloxone may be considered if opiate poisoning is likely.

2.2.2 Salicylate or Tricyclics: Alkalinisation with bicarbonate (1mmol/kg boluses) should be considered.

2.2.3 Paracetamol:

There is a recent review of paracetamol overdose step-by-step, BMJ Best practice 5/8/15
Summary:

Attain history of timing and dose taken. Serum level, at least 4 hours post ingestions, with AST/ALT, U+E, creat, blood gas, lactate, clotting.

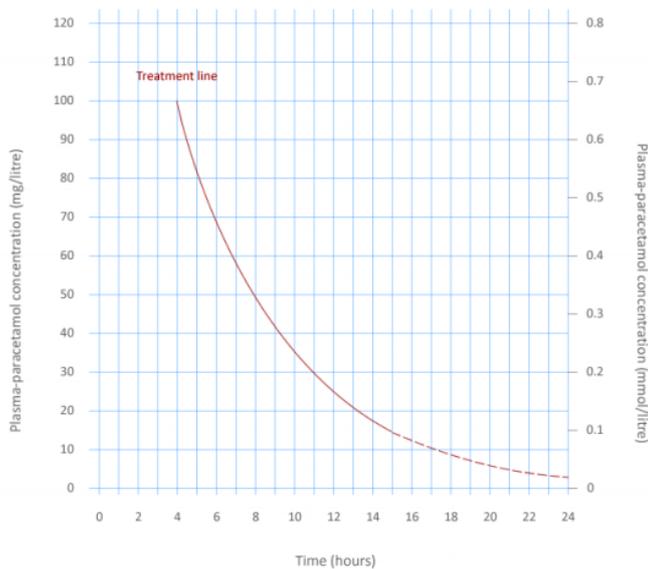
If hepatotoxic dose ingested (>75mg/kg) consider activated charcoal.

Discuss management algorithms for acute, staggered and repeated supratherapeutic ingestions and modified release formulations with medical toxicologist (toxbase).

If presenting at 4-8 hours the level should be plotted on graph below and treatment started with N-acetylcysteine (NAC) if the level is above the line.

Start NAC empirically if:

Patients present >8 hours after ingestion, serum paracetamol levels are not available within an 8 hour time window, uncertainty over timing of overdose, patients are unconscious or have a suspected overdose.



2.2.4 Specific antidotes (N-acetylcysteine for paracetamol, desferrioxamine for iron, pralidoxime and atropine for organophosphates) should be given after discussion with the NPIS.

3. Indications for intubation in cases of poisoning

- 3.1 GCS \leq 8
- 3.2 Impaired airway reflexes
- 3.3 Altered level of consciousness
- 3.4 Severe cardiovascular compromise

4. Management following intubation

- 4.1 Ventilate to normal parameters
- 4.2 Monitor glucose levels and temperature
- 4.3 Neurological observations must be performed
- 4.4 Give sedation if necessary. Consider possible interactions with suspected poison.

5. Transport considerations

- 5.1 Ensure that the receiving hospital is informed immediately if it is likely that haemodialysis will be required (theophylline, methanol).
- 5.2 Draw up emergency drugs as appropriate, especially with cardiotoxic poisoning.
- 5.3 Consider applying 'hands free' defibrillator pads for transport (especially TCA/dysrhythmic agent overdose).