

**TCA OD produces rapid onset of cardiovascular and neurological toxicity. Treatment includes serum alkalinization using NaHCO<sub>3</sub> and hyperventilation.**

## Toxicity / Risk Assessment

*One tablet in a child may produce significant toxicity*

***Onset of clinical effects is within 30-90 minutes***

***Clinical toxicity is made worse with acidosis***

*Clinical toxicity is dose dependent*

5-10 mg/kg: Mild toxicity (worse in children)

- ↑HR, mild CNS depression / agitation, mydriasis

>10 mg/kg: Moderate toxicity

- ↑ Anticholinergic features, warm dry skin, urinary retention, CNS depression / agitated delirium

>20 mg/kg: Severe toxicity

- Seizures, coma, hypotension, arrhythmias, death

## ECG manifestations:

- R wave in aVR >3 mm or >0.7 amplitude of S wave is most specific finding for TCA toxicity
- Sinus tachycardia, ↑QRS / ↑QT intervals
- ↑QRS: >120ms ↑risk of seizures, >160ms ↑risk ventricular arrhythmias

**Management:** Unconscious + ↑HR and history of TCA exposure in the past 1-2 hours: immediate intubation.

Consider bolus IV 1 mL/kg 8.4% NaHCO<sub>3</sub> immediately prior to intubation.

**Decontamination:** Activated charcoal (AC) 50 g via NGT **post intubation**. Repeat dose of 50 g AC four hours later. Patients with GCS 15 and heart rate < 100 presenting > 90 minutes post TCA ingestion do not need AC.

## Seizures (in the setting of acute toxicity <6 hours)

- Bolus IV 1 mL/kg 8.4% NaHCO<sub>3</sub>. Commence serum alkalinisation (see Serum Alkalinisation guideline).

- Diazepam 5 mg IV if seizure continues. Prepare for intubation if not already intubated.

## Hypotension

- Initial 20-30 mL/kg intravenous crystalloid. Commence serum alkalinisation aiming to achieve serum pH 7.45-7.55 (see Serum Alkalinisation guideline). Prepare for intubation if not already intubated.

- Norepinephrine for resistant hypotension **despite** IV fluid + correction of acidosis + Rx of arrhythmias

## Na channel blockade with QRS duration > 120 ms +/- ventricular arrhythmias

- Commence serum alkalinisation aiming to achieve serum pH 7.45-7.55 (see Serum Alkalinisation guideline)

- Prepare for intubation if not already intubated.

- Resistant arrhythmias with serum pH 7.45-7.55, discuss with Clinical Toxicologist

- consider lidocaine (lignocaine) 100 mg as an IV bolus

- Avoid β-blockers or amiodarone.

## **Disposition**

- Discharge pending mental health assessment if clinically well (normal conscious state) with normal ECG at 6 hours post exposure