Clinical Practice Guidelines:
Toxicology and toxinology/Tricyclic antidepressants

Policy code	CPG_TO_TRA_0120
Date	January, 2020
Purpose	To ensure a consistent approach to the management of tricyclic antidepressants poisoning.
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.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
Review date	January, 2023
Information security	UNCLASSIFIED – Queensland Government Information Security Classification Framework.
URL	https://ambulance.qld.gov.au/clinical.html

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Tricyclic antidepressant

January, 2020

Tricyclic antidepressants (TCAs) are potentially lethal in overdose. TCA agents act on multiple receptor sites. Their principal antidepressant action is mediated by serotonin and norepinephrine re-uptake inhibition. Myocardial toxicity is via sodium channel blockade. Other toxicity is mediated by the inhibitory action at the muscarinic, histamine and adrenergic receptors. [1]

Tricyclic antidepressants are most commonly prescribed for depression, however also may be used in the treatment of chronic pain and migraine.

Tricyclic antidepressants include:

- Amitriptyline
- Clomiparamine
- Dothiepin
- Doxepin
- Imipramine
- Nortriptyline

Clinical features

Anticholinergic effects

- Agitation/delirium
- Dilated pupils
- Dry, warm, flushed skin
- Hyperthermia
- Tachycardia
- Urinary retention

Neurotoxicity

- Sedation/Coma
- Seizures

Cardiotoxicity/ECG changes

- Hypotension
- Prolonged PR and QRS interval
- Prominent terminal R wave in aVR
- Ventricular tachycardia

Risk assessment

- Ingestions of more than 10 mg/kg in adults and 5 mg/kg in children are potentially toxic.[2] Severe toxicity occurs with ingestions greater than 20 mg/kg.[1]
- In large overdoses there can be a rapid, early deterioration with coma, seizures and cardiac arrhythmia
- All ingestions need review at a medical facility.