Clinical Practice Guidelines:
Toxicology and toxinology/Tricyclic antidepressants

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<tr>
<th>Date</th>
<th>October, 2017</th>
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<tr>
<td>Purpose</td>
<td>To ensure a consistent approach to the management of Tricyclic antidepressants poisoning.</td>
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<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
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<tr>
<td>Review date</td>
<td>October, 2020</td>
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<td>Information security</td>
<td>This document has been security classified using the Queensland Government Information Security Classification Framework (QGISCF) as UNCLASSIFIED and will be managed according to the requirements of the QGISF.</td>
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Tricyclic antidepressants (TCAs) are potentially lethal in overdose. TCA agents act on multiple receptor sites. Their principal antidepressant action is mediated by serotonin and noradrenaline 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 (ENDEP)
- Clomipramine (Anafranil, Placil)
- Dothiepin (Dothep, Porthiaden)
- Doxepin (Deptran, Sinequan)
- Imipramine (Trofranil, Tolerade)
- Nortriptyline (Allegron)
- Trimipramine (Surmontil)

Clinical features

**Anticholinergic effects**
- Agitation, delirium
- Dilated pupils
- Dry, warm, flushed skin, hyperthermia
- Tachycardia
- Urinary retention

**Neurotoxicity**
- Sedation
- Seizures
- Coma

**Cardiotoxicity**
- Tachycardia
- Hypotension
- Broad complex arrhythmias
- Bradycardia (late)

**ECG changes**
- Prolonged PR, QRS and QT interval
- Large terminal R wave in aVR
**Risk assessment**

- Ingestions of > 10 mg/kg are potentially toxic, with severe toxicity expected with ingestions > 30 mg/kg.\(^1\)
- Severe toxicity is usually evident within six hours of ingestion, with rapid development\(^2\) of coma, seizures or cardiac arrhythmia.
- All ingestions need review at medical facility.

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**CPG: Paramedic Safety**

**CPG: Standard Cares**

- Arrest/shock/respiratory distress?

  - Y
    - Manage as per CPG:
      - Relevant resuscitation

  - N
    - If imminent risk of harm, consider:
      - EEA

    - Consider:
      - Oxygen
      - IPPV
      - IV access
      - IV fluid
      - 12-Lead ECG
      - Sodium bicarbonate 8.4%
      - Droperidol

    - Transport to hospital
      - Pre-notify as appropriate

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*Note: Officers are only to perform procedures for which they have received specific training and authorisation by the QAS.*