Clinical Practice Guidelines: 
Toxicology and toxinology/Anticholinergic

<table>
<thead>
<tr>
<th><strong>Policy code</strong></th>
<th>CPG_TO_AN_0120</th>
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<tr>
<td><strong>Date</strong></td>
<td>January, 2020</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>To ensure a consistent approach to the management of anticholinergic toxidrome.</td>
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<td><strong>Scope</strong></td>
<td>Applies to Queensland Ambulance Service (QAS) clinical staff.</td>
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<td><strong>Health care setting</strong></td>
<td>Pre-hospital assessment and treatment.</td>
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<tr>
<td><strong>Population</strong></td>
<td>Applies to all ages unless stated otherwise.</td>
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<tr>
<td><strong>Source of funding</strong></td>
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The **anticholinergic toxidrome** refers to the classical syndrome which results from competitive antagonism at the muscarinic receptor. [1] Multiple agents have anticholinergic properties including: [2]

### Belladonna alkaloids:
- Atropine
- Scopolamine
- Plants including Angel's Trumpet, Deadly Nightshade and Mandrake

### Antispasmodics:
- Oxybutynin
- Hyoscine
- Orphenadrine
- Propantheline

### Antihistamines:
- Chlorpheniramine
- Cyproheptadine
- Diphenhydramine
- Doxylamine
- Promethazine

### Antipsychotics
- Chlorpromazine
- Haloperidol
- Olanzapine
- Quetiapine
- Clozapine

### Tricyclic antidepressants:
- Amitriptyline
- Clomipramine
- Dothiepin
- Doxepin
- Imipramine
- Nortriptyline

### Anti-Parkinson agents:
- Benztropine
- Amantadine

### Other:
- Carbamazepine
- Ipratropium bromide

The severity of toxicity can vary from mild to life-threatening, with symptoms persisting for many days. Good supportive care is the mainstay of therapy.

**Clinical features**

### Central anticholinergic effects
- Agitated delirium
- Hallucinations
- Seizures
- Coma

### Peripheral anticholinergic effects
- Mydriasis (dilated pupils)
- Tachycardia
- Dry, flushed skin
- Urinary retention
- Hyperthermia

**Risk assessment**

- Suspect anticholinergic toxicity in any patient with a deliberate ingestion of an agent with anti-muscarinic properties.
- Orphenadrine is highly toxic in overdose and can lead to myocardial depression, arrhythmia and death. [3]
- A 12-Lead ECG should be performed on all patients with suspected anticholinergic toxicity.
Risk of harm to self or others?

Y

Consider:
- Verbal de-escalation
- QPS assistance
- Physical restraint
- EEA

Manage as per:
CPG: Sedation – Acute behavioural disturbance

N

Consider:
- Oxygen
- IV access
- IV fluid
- Cooling

Transport to hospital
Pre-notify as appropriate

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