



Clinical Practice Guidelines: Toxicology and toxinology/Serotonin

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Purpose	To ensure a consistent approach to the management of serotonin toxicity.
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.
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Serotonin toxicity can occur from an overdose, a drug interaction or an adverse drug effect involving serotonergic agents. It covers a spectrum from mild self-limiting to severe, potentially life-threatening toxicity.

It is characterised by a clinical triad of:

- Neuromuscular excitation
- Autonomic effects
- CNS effects

It is caused by agents which increase the release or reduce the uptake or metabolism of serotonin. [1]

Serotonergic agents include: [2]

- *Antidepressants/antiepileptics:*
 - SSRIs (selective serotonin re-uptake inhibitors: citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline)
 - SNRIs (serotonin noradrenaline re-uptake inhibitors: venlafaxine, desvenlafaxine, duloxetine)
 - MAOIs (monoamine oxidase inhibitors: phenelzine, tranylcypromine, moclobemide, lamotrigine)
 - Clomipramine, imipramine
- *Opioid analgesic:*
 - Tramadol
 - Fentanyl
 - Pethidine

- *Other:*
 - Methamphetamine
 - MDMA
 - Lithium
 - St John's wort

Clinical features



Neuromuscular dysfunction

- Tremor
- Clonus
- Myoclonus
- Hyperreflexia
- Rigidity

Autonomic dysfunction

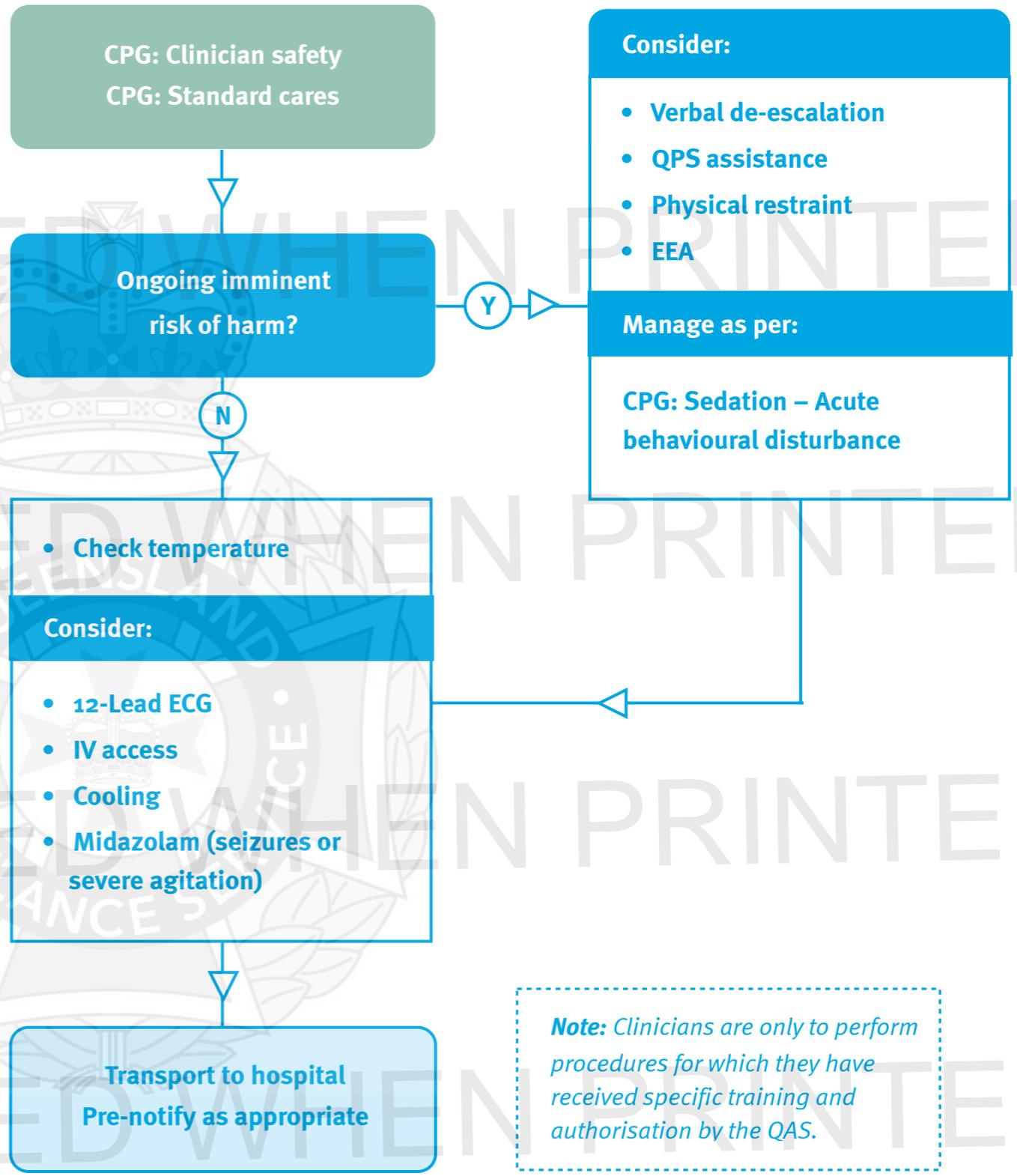
- Tachycardia
- Hypertension
- Hyperthermia
- Mydriasis (dilated pupils)

Neurological dysfunction

- Anxiety
- Agitation
- Confusion
- Seizures

+ Additional information

Citalopram and escitalopram can also prolong the QT interval in overdose.



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