

Serotonin toxicity is often only mild to moderate in severity, but severe toxicity can be life-threatening, primarily due to complications from hyperthermia

#### **Clinical features:**

Typically manifests via changes in mental status, autonomic hyper-activity, and neuromuscular excitation

**Mild**: tremor, tachycardia, inducible clonus (ankle, ocular), hyperreflexia

**Moderate**: agitation, sustained clonus, hyperthermia (< 39 deg C)

**Severe**: severe hyperthermia (≥ 39 deg C), muscle rigidity, and seizures

Severe serotonin toxicity is a medical emergency and can lead to multi-organ failure especially in the setting of exposure to MAOi

### Mechanisms of **↑**5HT (more than one may apply)

- -Inhibition of 5HT metabolism (MAOIs and other MAOis including lamotrigine, methylene blue, linezolid)
- Prevention of 5HT reuptake (SSRIs, tramadol, clomipramine)
- 5HT release (cathinones, MDMA, amphetamines)

Severe Serotonin Toxicity usually results from a combination of >1 mechanism of 5HT excess

**Management:** Supportive care is the mainstay of management

- IV hydration, titrated benzodiazepine, discontinuation and avoidance of serotonergic agents

### MILD TOXICITY: Anti-5HT agents not indicated in minor toxicity

- Titrated benzodiazepines (Diazepam 5-10 mg orally 2 to 4 hourly) to achieve clinical response

### **MODERATE TO SEVERE TOXICITY:** Discuss with clinical toxicologist

Aggressive cooling (if T > 39 deg C): along usual treatment lines, may require intubation and paralysis

*Chlorpromazine*: 25 mg IV in 1000 mL 0.9% N/Saline over 1 hour **OR** 

*Cyproheptadine*: administered orally or via NGT. 12 mg loading dose and repeat 2 mg 2 hourly until adequate therapeutic response is achieved (maximum 32 mg over 24 hours) **OR** 

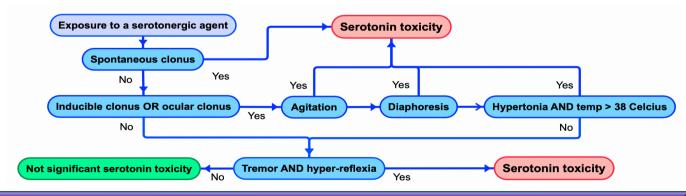
Olanzapine: 10 mg SL/PO

Endpoint: resolution of neuromuscular excitation and normal vital signs

## **Disposition:**

Toxicity usually resolves over 24-48 hours. Discharge when symptomatically well.

# **Hunter Serotonin Toxicity Criteria:**



AUSTIN CLINICAL TOXICOLOGY SERVICE GUIDELINE

**POISONS INFORMATION CENTRE: 13 11 26**