

# Gammahydroxybutyrate (GHB), gamma-butyrolactone (GBL), 1,4 butanediol (1,4 BD)

GHB is used as a recreational substance. GHB produces euphoria. Small excess dosing can cause profound CNS depression and life-threatening toxicity.

## Toxicity / Risk Assessment

*GHB and its precursors [gamma-butyrolactone (GBL) or 1,4 butanediol (1,4 BD)] are ingested as liquids.*

*Onset of effect is rapid. Maximal clinical effects may be delayed when 1,4 BD is co-ingested with ethanol*

*Toxic effects are potentiated with other CNS depressants*

*Serious toxicity should be anticipated following any paediatric exposure*

### **Clinical features:**

- Brief euphoria, followed by profound reduction in conscious state if excessive amount has been ingested. Duration of CNS depression is typically short-lived (4-6 hours)
- Sudden and rapid recovery is characteristic
- Miosis, bradycardia or hypothermia may be present (but not always)
- Myoclonic movements may mimic seizures
- Death may occur secondary to airway obstruction
- Severe metabolic acidosis may occur in massive overdose

### **GHB/ GBL/ 1,4 BD withdrawal**

- Can be life-threatening (*see separate guideline*)

## Management

Patients are managed in a resuscitation area. Coma is usually short-lived and can be managed conservatively as long as there is no airway or ventilatory compromise.

**Decontamination:** Activated charcoal is **not indicated** due to rapid onset of CNS depression.

### **Supportive Management**

- Unconscious patients with suspected GHB toxicity require close **continuous monitoring** in a **resuscitation area** and can be managed in the left lateral position as long as there is **no airway obstruction, hypoventilation or vomiting**

### **INTUBATE AND VENTILATE IF:**

- *Airway obstruction*
  - *Ventilatory failure: unable to maintain saturation >92% on room air*
  - *Vomiting that threatens the airway*
  - Bradycardia rarely requires treatment unless hypotension is present.
  - Myoclonic movements do not require specific management.
  - If seizures do occur, benzodiazepines are first line Rx
- \*Consider other causes of reduced conscious state or co-ingestion of other CNS depressants in patients with prolonged coma (> 4 hours)

### **Disposition**

- Patients who remain asymptomatic 2 hours post ingestion can be discharged
- Symptomatic patients: fit for discharge once ambulant with normal observations and conscious state