

Initial toxicity includes vomiting, tinnitus, vertigo and hearing loss. Severe toxicity includes visual loss, seizures, coma and cardiovascular dysfunction.

Toxicity / Risk Assessment

- > 1g: typically produces mild-moderate toxicity
- > 5 g: CVS, CNS and retinal toxicity more likely
- > 10 g: CVS, CNS, retinal toxicity almost universal

Clinical features:

Cinchonism is a term used to describe the clinical features of quinine toxicity

Onset of clinical features occurs within hours, but visual toxicity may be delayed > 8 hours

Mild cinchonism: flushing, diaphoresis, tinnitus, nausea & vomiting, vertigo, hearing impairment

Severe toxicity:

CVS: (usually within 8 hours) hypotension, tachycardia, ↑QRS / ↑QT intervals, arrhythmias

CNS: confusion, drowsiness, seizures, coma

Retinal toxicity: may be delayed > 8 hours

- Blurred vision, altered colour perception, ↓ visual fields
- Blindness (can be permanent)
- Recovery may be slow (weeks)

Metabolic: ↓ BSL (insulin release), ↓ K⁺ (intracellular shift)

Management

Aggressive supportive care is the mainstay of management

Consider early intubation if ingested dose > 5 g (discuss with clinical toxicologist)

Decontamination: Activated charcoal (AC) 50 g should be administered to awake patients within 2 hours of a reported ingestion > 1 g. Intubated patients should receive AC via a nasogastric tube.

Fluid & Electrolytes:

IV fluid replacement if dehydrated from vomiting or as initial treatment of hypotension

If ↓K, **replace with caution.** Aim K⁺ 3.0-3.5 mmol/L as ↓K⁺ is due to intracellular shift & not K⁺ loss.

Enhanced Elimination: consider MDAC (see separate guideline) for patients with severe toxicity or visual symptoms (please discuss with clinical toxicologist)

Hypotension: manage initially with 20-30 mL/kg IV crystalloid

Seizures: Diazepam 5 mg IV every 5 minutes as necessary

Visual disturbance: there is no specific proven antidote or intervention

Management of ↑ QT interval: See separate *Prolonged QT interval / TdP* guideline

Ventricular arrhythmias / Na⁺ channel blockade

- Often poorly responsive to NaHCO₃ therefore discuss all cases with a clinical toxicologist
- Maintain serum K⁺, Mg²⁺ and Ca²⁺ concentrations in normal range

Disposition:

Discharge pending mental health assessment if asymptomatic and normal ECG 6 hours post ingestion

Ensure ophthalmology review and follow-up for patients with visual symptoms