

Digoxin immune Fab is not always required in the management of acute digoxin poisoning.

Toxicity / Risk Assessment

This guideline is for acute digoxin toxicity only.

Ingestion of >10 mg → serious toxicity

Children who ingested > 50 mcg/kg → toxicity

Ingestion of natural cardiac glycosides such as oleander, foxglove, lily of the valley, cerbera odollam (pong pong) or cane toad can cause serious toxicity.

Call Clinical Toxicologist for ingestions > 10 mg or ingestion of natural cardiac glycosides

Clinical features:

- GI: nausea, vomiting, abdominal pain
- CVS: increased automaticity (ventricular ectopics, bigeminy, ventricular tachyarrhythmias), bradycardias (slow AF, AV block), ↓BP
- Hyperkalemia is a marker of toxicity
- CNS: lethargy, delirium, confusion

Concentration conversion (nmol/L x 0.78 = ng/mL)

Early elevated serum digoxin concentration (< 6 hours post ingestion) may not correlate with clinical features, because digoxin is in pre-steady state phase.

Management -

Decontamination: 50 g activated charcoal should be given within 2 hours of ingestion.

AC administration should be considered up to 4 hours after massive OD.

Digoxin immune Fab (*Digoxin concentration is not interpretable after administration of digoxin immune Fab*)

- Cardiac arrest: 5 vials as IV push and repeat in 5-10 minutes. If ROSC not achieved, discuss requirement for > 10 vials with clinical toxicologist

Other indications: (2 vials in 100 mL of N/Saline; infuse over 15-30 minutes. Repeat doses may be required)

- dysrhythmias (with hypotension) OR ventricular tachyarrhythmias OR runs of ventricular ectopic beats
- K⁺ >6 mmol/L and evidence of acute toxicity
- Digoxin concentration >15 nmol/L (>12 ng/mL) AND clinical signs of toxicity (discuss with toxicologist)

Hyperkalaemia - Treat along conventional lines (this includes giving calcium if indicated)

Arrhythmias (if digoxin immune Fab is not immediately available)

- **Bradycardias** - Atropine: 0.6 mg IV boluses q5 minutely up to 3 doses (child 0.02 mg/kg boluses)
- **Ventricular tachyarrhythmias** - MgSO₄ 10 mmol (2 g) IV or lignocaine 100 mg IV slow push in adult.

Enhanced elimination

- **Multi-dose activated charcoal (MDAC)** - discuss with toxicologist (see separate guideline)

Disposition

- Discharge pending mental health assessment if asymptomatic and digoxin concentration < 2.6 nmol/L (2 ng/mL), normokalaemia and no cardiotoxicity >6 hours post ingestion.
- Admit for cardiac monitoring if requiring digoxin immune Fab