

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

Toxicity / Risk Assessment

Ingestion of >10 mg → serious toxicity

Children who ingested > 30 mcg/kg → toxicity

This guideline is for acute digoxin toxicity only.

Ingestion of natural cardiac glycosides such as oleander, foxglove, lily of the valley or cane toad can cause serious toxicity. (discuss with clinical toxicologist)

Clinical features:

- GI: nausea, vomiting, abdominal pain
- CVS: increased automaticity (ventricular ectopics, bigeminy, ventricular tachyarrhythmias), bradydysrhythmias (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)

- **Bradydysrhythmias** - Atropine: 0.6 mg IV boluses q5 minutely up to 3 doses (child 0.02 mg/kg boluses)
- **Ventricular tachyarrhythmias** - $MgSO_4$ 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