# Digoxin

<table>
<thead>
<tr>
<th>Band Name</th>
<th>Lanoxin</th>
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<td>Drug Type</td>
<td>Vasopressor</td>
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- **Indication**
  - Congestive cardiac failure [CCF]
  - Diminished myocardial contractility
  - Supraventricular tachycardia
  - Congenital atrial flutter and fibrillation

- **Action**
  - Increases the force of the myocardial contraction resulting in improved cardiac output [inotropic action]
  - Decreases A-V conduction in the heart resulting in a decreased heart rate.

- **Presentation**
  - 50microg/2ml ampoule for intravenous use
  - 50microg/ml elixir for oral use.

- **Storage**
  - Store below 25°C

- **Loading Dose**
  - Term: 30 microg/Kg
  - Preterm: 20 microg/Kg

- **Maintenance Dose**
  - 4 microg/Kg/dose

- **Interval (hr)**
  - 12

- **Therapeutic Range**
  - 1-2 ng/ml

- **Dilution**
  - Dilute 1ml from the 50 microg/2ml ampoule with normal saline or water for injection to make a 25 microg/5ml solution. ie 1ml = 5microg

- **Administration**
  - IG tube or orally with feeds, or by intravenous infusion if not on feeds.
  - Loading: Give one-half of the loading dose statim, orally or IV, and the other one half of the dose in three divided doses at 6-8 hourly intervals.

- **Compatible**
  - When given IV, Digoxin may be added to 5% dextrose and normal saline.
  - Additive compatibilities: calcium gluconate, heparin, potassium chloride.

- **Incompatible**
  - Additive incompatibilities: dopamine and dobutamine
Side Effects
* Cardiac arrhythmias - PVC's, PAT, sinoatrial block, sinus arrhythmias, bigeminy, VT.
* GIT upsets - feed intolerance, weight loss, vomiting
* Hypokalaemia - associated with diuretic therapy may increase the effects and toxicity of digoxin.
* Bradycardia - due to depression of atrioventricular conduction
* CHF - worsening of this condition associated with overdose
* Caution - In pre existing hypokalaemia may lead to adverse reactions
* In premature infants with immature renal and hepatic dysfunction
* Monitor blood serum potassium and other electrolytes.
* Plasma Levels:
  * The therapeutic plasma concentration is 1.2 ng/ml. Digoxin toxicity is rare when the plasma level is 3.5 ng/ml.
* Cross reactivity may result in spuriously high levels in newborn infants.

Contraindications

Other Considerations
* Medical staff only to give digoxin by the intravenous route.
* During digitalisation infant must be cardiorespiratory monitor with ECG display.
* Intravenous digoxin must be administered by medical staff and patient cardiac rate and rhythm monitored
* Take apical pulse for one minute prior to administration noting rate and rhythm.
* Notify medical officer for further orders if rate < 90-110/minute or there is a change in rhythm.
* Monitor for arrhythmias, oedema and tachypnoea - notify registrar
* Monitor fluid balance
* Daily weigh until stabilised
* Persistent vomiting is usually the most common sign of digitalis toxicity in infants.
* Parent education if infant to be discharged on medication

References


