CAPTOPRIL

Trade Name	Capoten® (HCL)
Class	Angiotensin-converting enzyme (ACE) inhibitor
Mechanism of Action	Blocks the conversion of angiotensin I to angiotensin II, a potent vasoconstrictor. This results in decreased plasma and tissue levels of angiotensin II and aldosterone, and increases plasma and tissue renin activity. The result is a combination of afterload reduction and long term inhibition of salt and water retention.
Indications	Neonatal congestive heart failure and hypertension
Contraindications	Caution when used with potassium sparing diuretics, increased risk of hyperkalaemia. Caution in renal impairment. Contraindicated in bilateral renovascular disease or unilateral renal artery stenosis in a solitary kidney.
Supplied As	Captopril Solution 5mg/mL
Dilution	N/A
Dosage	**Test dose:** 0.01mg/kg and check BP (see monitoring) before charting a regular dosing **Regular dose:** Cardiologists usually dictate dosing: Often start at 0.05mg/kg/dose, then Increase **to** 0.1mg/kg/dose and then, Increase **by** 0.1mg/kg/dose up to a Maximum of 0.5mg/kg/dose **Note:** Maximum recommended dose for neonates < 37weeks gestation = 0.3mg/kg/day [4] Neonates can develop profound hypotension so dose increases should be done every 1-3 days as necessary
Interval	8 hourly
Administration	Given orally 1hr before feeding if able
Compatible With	N/A
Incompatible With	N/A
Interactions	Increased hypotension with other antihypertensive agents Risk of hyperkalaemia with other potassium conserving agents (eg spironolactone)

Monitoring	Blood pressure to be checked after initial dose and with every dose increment – measure BP at 30min, 1hr, 2 hr and 4 hrs after dose Urea and electrolytes, FBC
Stability	Discard solution 28 days after opening
Storage	Store in the Fridge 2 – 8 ^{o}C
Adverse Reactions	Hypotension, tachycardia, rash, proteinuria, cough, neutropenia, renal impairment
Metabolism	Onset of action is 15min after dose, with peak at 30-90min. Bioavailabilty is good but decreased by food.
Comments	Neonatal response is very variable to ACE inhibitors including captopril, with some neonates developing profound hypotension. For this reason very small test doses and close monitoring are recommended when initiating captopril therapy In situations where the manufacturer is out of stock pharmacy can prepare an oral solution for ward use.
References	1. www.medsafe.govt.nz 2. Lacy et al Drug Information Handbook 10th Edition 3. Neofax in www.micromedex.com 4. BNF for Children 2006 www.nzf.org.nz
Updated By	P Schmidt, B Robertshawe July 2006 B Robertshawe, N Austin Feb 2007 A Lynn, B Robertshawe June 2012 (re-order profile) A Lynn March 2013 (BP monitoring from Akld) A Lynn, M Wallenstein, B Robertshawe September 2020 A Lynn, B Robertshawe June 2023