



**NEONATAL MEDICATION PROTOCOLS**

**ALPROSTADIL (PROSTAGLANDIN E1)**  
 Created by: NCCU  
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NCCU Clinical Guidelines  
 KEMH/PMH  
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<b>DRUG:</b>	<b>ALPROSTADIL (PROSTAGLANDIN E1)</b>
<b>PRESENTATION:</b>	Ampoule: 500 microgram/mL
<b>ACTION &amp; INDICATION:</b>	Promotes dilatation of all arterioles Used to maintain patency of ductus arteriosus in neonates with congenital heart defects dependent on ductal shunting for oxygenation and perfusion until corrective surgery can be performed. (Cyanotic heart disease, duct dependant lesions)
<b>DOSE:</b>	Initially: 0.05 microgram/kg/minute (50 nanograms/kg/min) If effective within 30 minutes reduce to 0.025 microgram/kg/minute. Maintenance dose : May be as low as 0.01microgram/kg/minute
<b>PREPARATION:</b>	<b>Use solution prepared by Pharmacy if available.</b> Diluent: 5% Glucose, sodium chloride 0.9% <b>To prepare an infusion solution to deliver 0.05 microgram/kg/minute (ie 50 nanograms/kg/minute) at a rate of 1mL/hr.</b> Volume of diluent required (mL) = $\frac{167}{\text{Baby's weight (kg)}}$ Add 500 micrograms alprostadil to this volume.  <b>OR:</b>  <b>To prepare a 50mL syringe of the same concentration as above:</b> <b>Dilute 150 micrograms/kg body weight to a final volume of 50mL</b> <b>1mL/hr = 0.05 microgram/kg/minute</b>  The infusion solution may be further diluted if required.
<b>ADMINISTRATION:</b>	For continuous intravenous/arterial infusion via syringe pump
<b>ADVERSE EFFECTS:</b>	May cause apnoea in infants especially in the first hour of infusion Consider intubation and ventilation when using on NETS transports Flushing, bradycardia, tachycardia, hypotension, apnoea, fever, seizures, hypothermia Avoid in HMD/RDS Contraindicated in infants with PFC (persistent foetal circulation) or anomalous pulmonary venous return. Neonates receiving alprostadil for more than 120 hours, or maintained on high doses, should be closely monitored for evidence of antral hyperplasia, gastric outlet obstruction and cortical hyperostosis (eg widening fontanelles).
<b>COMMENTS:</b>	If volume infused is <0.5mL/hr, then it must be run in conjunction with a glucose 5% or sodium chloride 0.9% infusion. No evidence of incompatibility with heparin. Maximum effectiveness within 96 hours of birth Check compatibility if infusing with other medications or IV solutions. Infusion solution stable for 24 hours
<b>REFERENCES:</b>	BNF for Children 2013 Neofax 2012
<b>DATE:</b>	August 2013