

ALPROSTADIL (PGE1) Continuous IV Infusion (for maintenance of ductus arteriosus)

Presentation

- Alprostadil 500 microgram in 1ml

Prescribing

- Prescribe on the critical care infusion chart or infusion section of the drug chart as alprostadil 50 microgram in 50ml glucose 5 or 10%.

Storage

Refrigerator.

Preparation/ Dilution

Draw up 1ml alprostadil and add to a 500ml bag of glucose 5 or 10%. Label bag. Invert bag 5 times and remove 50ml from bag into a 50ml syringe labelled as per Trust policy.

Sodium chloride 0.45 or 0.9% 500ml bag may also be used as diluents if there are issues with blood sugar levels.

Route of Administration

CENTRAL access should be used unless emergency. See below for risk minimisation if only peripheral access

Rate of Administration

5 -20 nanogram/kg/min. Doses up to 100 nanogram/kg/min have been used under direction of Senior Cardiologist or Intensivist

Pump programming

Pump mode	Short Code	Default starting dose	Soft Minimum	Soft Maximum	Hard Maximum
Drug library	Alprostadil 50/50	5 nanogram/kg/min	2 nanogram/kg/min	20 nanogram/kg/min	100 nanogram/kg/min

No bolus function available

Pump calculation check

$$\text{Pump rate in ml/hr} = \frac{(\text{Dose in nanogram/kg/min}) \times \text{weight} \times 60}{1000 \text{ nanogram/ml}}$$

Stability

Use immediately- assign 24 hour expiry to IV additive label

Flushes

Flush with sodium chloride 0.9% at the same rate as the infusion.

Common compatibilities at terminal Y-site

Adrenaline, calcium chloride, dopamine, dobutamine, heparin, milrinone, morphine, noradrenaline, vasopressin and IV maintenance fluids containing sodium chloride/glucose with or without potassium chloride,

Monitoring/ Other comments

The injection contains alcohol and therefore predisposes neonates to apnoeas- monitor oxygen saturations, respiratory and heart rate.

Ensure reliable IV access as half life very short.

If patient is very fluid restricted, contact pharmacy for advice for preparation of a 250microgram in 50ml alprostadil solution.

ALPROSTADIL (PGE1) Continuous IV Infusion (for maintenance of ductus arteriosus)

Extravasation Risk

Extreme of pH	Hyperosmolar	Vasoactive	Vesicant
Unknown as in ethanol	Yes	Yes- dilation	no

Extravasations can cause necrosis, therefore where there is central access it should be used.

Calculation example

2.5kg child requiring alprostadil to maintain PDA, with central access on Ward11.
Prescribe on the infusion chart as alprostadil 50microgram in 50ml glucose 10%. Start infusion at 10nanogram/kg/minute.

Prepare and administer as follows:

Add 1ml alprostadil 500 microgram in 1ml into 500ml bag of glucose 10%. Label bag and invert 5 times. Draw out 50ml of this solution into a 50ml syringe. Label as per Trust Policy.

Select drug library Alprostadil 50/50 in syringe pump and set to run at 10nanogram/kg/min = 1.5ml/hour via central line.

No pump rate check calculation