

Adrenaline (Epinephrine) – for HYPOTENSION

MORE THAN ONE STRENGTH AVAILABLE – ENSURE THE CORRECT STRENGTH IS USED FOR THE APPROPRIATE INDICATION

BRAND NAME All brands suitable for IV administration
(IM preparations can be given intravenously if diluted as below)

FORM Adrenaline 1:1000 (1mg/1ml)

INDICATION Refractory hypotension

Refractory hypotension

DOSE RANGE

AGE	DOSE RANGE	FREQUENCY	ROUTE
Birth - 6 months	0.01 – 0.1 microgram/kg/minute Doses of up to 0.3micrograms/kg/minute may be required in exceptional circumstances under consultant advice.	Continuous infusion	IV

NB: For this indication Adrenaline 1:1000 (1mg/1ml) strength is required. Special care is required when using and storing this strength of adrenaline.

PRESCRIPTION OF CONTINUOUS INFUSION

LOW CONCENTRATION - STARTING CONCENTRATION

**FOR DOSES ≤ 0.1microgram/kg/minute
0.3mg/kg in 50ml infusion fluid**

This gives:-

- 0.02microgram/kg/minute at 0.2ml/hour
- 0.05microgram/kg/minute at 0.5ml/hour
- 0.1 microgram/kg/minute at 1ml/hour

HIGH CONCENTRATION

**FOR DOSES > 0.1microgram/kg/minute
3mg/kg in 50ml infusion fluid**

This gives:-

- 0.1microgram/kg/minute at 0.1ml/hour
- 0.3microgram/kg/minute at 0.3ml/hour

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RECONSTITUTION	Already in solution. 1:1000 strength must be diluted prior to use.
DILUTION	<div style="border: 1px solid black; padding: 5px;"> <p><u>LOW CONCENTRATION</u> Using Adrenaline 1 in 1000 (1mg/1ml) injection; 0.3 x weight (kg) is the number of ml of adrenaline 1mg/1ml to be diluted up to 50ml total with infusion fluid (equivalent to 0.3mg/kg in 50ml) NB For RHC ONLY: Babies <1.7kg on low concentration must have infusion pump programmed manually (i.e. do not select adrenaline from library)</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><u>HIGH CONCENTRATION</u> Using Adrenaline 1 in 1000 (1mg/1ml) injection; 3 x weight (kg) is the number of ml of adrenaline 1mg/1ml to be diluted up to 50ml total with infusion fluid (equivalent to 3mg/kg in 50ml)</p> </div>
METHOD OF ADMINISTRATION	<p><u>For continuous Infusion</u> By continuous intravenous infusion, flow rate adjusted according to the baby's response (see prescription section for details).</p> <p>RHC – NB If the infusion pump alarms for breach of a hard dose limit, the pump can be reprogrammed using the 'dosing only option' if switching to high concentration is not clinically appropriate for dose titration.</p>

COMPATIBILITY

Solution compatibility	Sodium chloride 0.9%, Glucose 5%, Glucose 10%,
Solution incompatibility	No information
IV Line compatibility	<p>Atracurium, Calcium Gluconate , Dobutamine, Dopamine, Noradrenaline, Potassium Chloride, Vecuronium</p> <p>Compatible in Glucose 5% only – Fentanyl, Midazolam, Milrinone, Morphine</p> <p>Compatible in Sodium Chloride 0.9% only - Insulin</p>
IV Line incompatibility	Aminophylline, Epoprostenol, Furosemide, Omeprazole, Sodium bicarb.

THIS LIST IS NOT EXHAUSTIVE PLEASE CONTACT PHARMACY FOR FURTHER INFORMATION ON COMPATIBILITY WITH ANY MEDICINES NOT INCLUDED

CAUTIONS, CONTRA-INDICATIONS AND SIDE EFFECTS

See Summary of Product Characteristics and most recent edition of BNF for Children (links below)

FURTHER INFORMATION

Monitoring requirements:

Heart rate and rhythm, arterial blood pressure and peripheral perfusion.
 Urine output and renal function.

STORAGE

Once diluted the infusion requires to be protected from light to maintain stability for 24 hours. **Do not use discoloured solutions** or solution containing a precipitate.

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PH	2.5 – 3.6
LICENSED STATUS	Off label use in neonates. IM adrenaline 1:1000 is licensed to be administered IV when diluted to concentrations of 0.1mg/ml. In practice, higher concentrations may be administered IV when diluted as above.
LINKS	BNF for Children / Electronic Medicines Compendium :
APPLICABLE POLICIES	West of Scotland Neonatal Guidelines : Consult local policy if applicable

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Administer reconstituted solutions immediately.

All vials, ampoules and infusion bags are for single use only unless otherwise stated.

Dose may vary depending on indication, age, renal function, hepatic function, and concomitant medications. This monograph should be used in conjunction with the package insert, BNF for Children, and Summary of Product Characteristics. For further advice contact your clinical pharmacist or pharmacy department.