

# Paediatrics: Noradrenaline

Presentation:	Noradrenaline (norepinephrine) base 1 mg/ml (1 in 1,000), 4ml ampoules
Indication:	Inotropic support
Dose:	<p><b>NB. All doses refer to noradrenaline base.</b></p> <p>Initially 0.02-0.1 micrograms/kg/min, titrated according to response (max 1 microgram/kg/min)</p> <p>When stopping the infusion, reduce dose gradually to avoid sudden falls in blood pressure. Doses in BNFC are expressed in nanograms/kg/min. (To convert nanograms to micrograms, divide by 1,000)</p>
Route of Administration:	Continuous intravenous infusion via central line or intraosseous route only.
Instructions for preparation:	<ul style="list-style-type: none"> <li>• Draw up 0.3mg/kg (300 microgram/kg) noradrenaline (round to nearest 0.1mg for ease of measuring)</li> <li>• Dilute to a final volume of 50mL with 5% glucose (preferred) or 0.9% sodium chloride</li> <li>• The resulting solution can then be run at 1ml/hr (= 0.1micrograms/kg/min)</li> </ul> <p>The calculated infusion rate should be rounded to the nearest 0.1ml/hr. Subsequent dose changes can be made by altering the infusion rate.</p> <p>Discard diluted solution after 24 hours or if brown discolouration develops.</p> <p>For fluid restricted patients, a double strength infusion containing 0.6mg/kg in 50ml may be used. Concentration must be less than 50mg/50ml (due to SMART pump set up).</p>

## Prescribing

**QHB-** Meditech

**RDH-** on paper chart

To calculate the concentration of infusion for SMART pumps (micrograms/ml), divide total mg in infusion by volume of infusion (ml) and multiply by 1,000 (to convert from mg to microgram):

$$e.g. \frac{2.4\text{mg}}{50\text{ml}} = 0.048\text{mg/ml} \times 1,000 = 48\text{micrograms/ml}$$

Example prescription for 8kg child:

Drug	Drug amount in syringe	Diluent	Total volume (ml)	Route
<i>Noradrenaline</i>	<i>2.4mg</i>	<i>5% glucose</i>	<i>50ml</i>	<i>IV</i>
Start date	Drug concentration per ml	Infusion range	Min	Max
<i>6/3/18</i>	<i>48micrograms/ml</i>	Dose/kg/time	<i>0.02micrograms /kg/ mi n</i>	<i>1micrograms /kg/ mi n</i>
Pharm		ml/hr	<i>0.2</i>	<i>10</i>
				Name, Sig, Bleep
				<i>A.Doctor</i>
				<i>#1234</i>

Directions for administration via SMART pump

- ILoad Syringe, prime line using the pump for accurate dosing.
- IOpen 'Children' folder then open 'Noradrenaline' programme.
- IUsing DATA chevrons enter concentration in micrograms/ml and confirm
- Enter child's weight in kg and confirm
- Enter the dose in **micrograms/kg/min**
- Visually confirm the rate (ml/h) against the prescribed dose (micrograms/kg/min)
- Perform STOP moment with medical team (check pump against prescription)
- IConnect to child
- IPress start button

Known compatibility

**Compatible:** adrenaline, dobutamine, dopamine, heparin, midazolam, morphine, KCl



Additional Comments:	Local extravasation may result in vasoconstriction and necrosis. If this occurs stop the infusion and seek medical advice. Do not flush the central venous access device. After the infusion is stopped, disconnect the administration set, aspirate the cannula contents, and then flush with sodium chloride 0.9%.
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Note: The contents of this monograph should be read in conjunction with information available in the BNFC and Medusa

**References:**

British National Formulary for Children, accessed via [www.medicinescomplete.com](http://www.medicinescomplete.com) on 12/8/23

SPC for noradrenaline accessed via [www.medicines.org.uk](http://www.medicines.org.uk) on 15/08/23

Medusa Injectable Medicines Guide, accessed via <http://medusa.wales.nhs.uk> on 15/08/23

Trissel LA (Ed), Handbook on Injectable Drugs, accessed via [www.medicinescomplete.com](http://www.medicinescomplete.com) on 15/08/23

NUH Noradrenaline (Norepinephrine) paediatric monograph, accessed via <https://nuhp.koha-ptfs.co.uk/cgi-bin/koha/opac-retrieve-file.pl?id=d22bd9d1450b0aa79d7ecf4520ce3c73> on 15/08/23



### Document control sheet

<b>GUIDELINE NUMBER</b>	
<b>AREA IN WHICH THIS MONOGRAPH APPLIES</b>	CED, Dolphin Unit

<b>DIVISIONAL AUTHORISATION</b>
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Paediatric monograph review group	12/12/2023

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Change history:

Changes Reference	Change details	Date