NORADRENALINE (Norepinephrine)

Read in conjunction with Disclaimer

Scope (Staff):	Nursing, Medical and Pharmacy Staff
Scope (Area):	CAHS NICU, NETS WA

HIGH RISK Medication

Formulary: Restricted
Requires neonatologist or cardiologist review within 24 hours of initiation.

Presentation	**Ampoule:** 4 mg/4 mL = **1000 microg/mL**
Classification	Sympathomimetic
Indication	Vasopressor activity for vasodilatory shock, e.g. septic shock. ***Note:*** *Usually used in conjunction with dopamine to treat profound hypotension, in the setting of sepsis when other inotropes have failed.*
Special Considerations	**Contraindication:** Hypotension from hypovolaemia except as an emergency measure to maintain cerebral and coronary perfusion until volume replaced. **Precautions:** • Correct hypovolaemia before commencing noradrenaline. • Ensure adequate circulatory volume to minimise need for vasoconstrictors. • Avoid hypertension: close monitoring of BP and adjustment if needed. • Use with extreme caution in patients with profound hypoxia or hypercarbia may produce ventricular tachycardia or fibrillation use with extreme caution. Use extreme caution when titrating dosage and changing lines/fluids as sudden changes to rates can result in blood pressure fluctuations.
Monitoring	• Continuous blood pressure monitoring, heart rate. • Monitor IV site for extravasation.
Compatibility	**Fluids:** Glucose 5% (preferred), sodium chloride 0.9%.

Compatibility with heparin

	Sodium chloride 0.9%	Glucose 5%
With heparin	Stable for 24 hours at room temperature	Stable for 24 hours at room temperature
Without heparin	Stable for 48 hours at room temperature	Stable for 48 hours at room temperature

Refer to KEMH Neonatal Medication Guideline: Y-Site IV Compatibility in Neonates

Interactions

- **Beta-blockers** may reduce the pressor effects of noradrenaline; seek specialist advice.
- **Linezolid** inhibits the metabolism of noradrenaline; may increase its effects resulting in hypertension; use combinations with caution, may need to reduce the dose of noradrenaline.

Adverse Effects

Common: Anxiety, palpitations, headache, extravasation which may cause local tissue necrosis and sloughing.

Infrequent/rare: Hypertension, bradycardia. Prolonged use of high doses can result in volume depletion causing renal impairment and reduced peripheral tissue perfusion.

Storage & Stability

Ampoule: Store at room temperature, below 25°C. Protect ampoules from light.

CONTINUOUS INTRAVENOUS INFUSION

Presentation

Ampoule: 4 mg/4 mL = **1000 microg/mL**

Available from CIVAS (KEMH) and PCS (PCH): *continuous infusion*

Dosage

Note: dose stated as noradrenaline base.

Starting dose: 0.05 to 0.1 microg/kg/minute,

Titrate dose in small increments as required to: 0.05 to 0.5 microg/kg/minute.

Higher doses up to a maximum of 2 microg/kg/minute; have been used as per neonatologist or cardiologist.

Preparation

Use syringe prepared by pharmacy where available.

Dilution:

Draw up 300 microg of noradrenaline per kg of baby's weight and make up to 50 mL total volume with compatible fluid.

Concentration: **1 mL/hour = 0.1 microg/kg/minute**

Example: To prepare an infusion for a 780 g infant.

Weight = 0.78 kg

Dose in infusion = 300 microg x 0.78 kg = 234 microg

Dilute 234 microg of noradrenaline up to 50 mL with compatible fluid.

	Fluid restricted infants • Continuous infusions can be made double, quadruple, etc strength if required for fluid restricted infants. • Ensure medication order is clearly annotated with the strength of the infusion (i.e. “double strength”). • Pay close attention to the change in infusion rate when changing strength.	
Administration	**IV infusion:** • Infuse at the prescribed rate via syringe driver pump. • Avoid peripheral administration. Central venous administration is recommended and preferred due extravasation associated necrosis risk. • Do not stop infusion abruptly. If clinical situation does not allow for gradual reduction, monitor haemodynamic parameters closely.	

Related Policies, Procedures, and Guidelines

HDWA Mandatory Policies:

MP 0131/20: WA High Risk Medication Policy

CAHS Neonatology Clinical Practice Guidelines:

Congenital Diaphragmatic Hernia (CDH)

Cardiac: Neonatal Circulation Changes / Unbalanced Circulation

Cardiac: Routine Post-Operative Care

Hypoxic Ischaemic Encephalopathy (HIE) and Therapeutic Hypothermia

Sepsis: Neonatal

Pharmaceutical and Medicines Management Guidelines:

CAHS Neonatology – Medication Administration Guideline

High Risk Medicines

References

Ainsworth S, Vasey N. Neonatal Formulary: Drug Use in Pregnancy and the First Year of Life. 9th ed. Oxford: Oxford University Press; 2026. p. 561-564

Australian Medicines Handbook. Noradrenaline (norepinephrine). In: Australian Medicines Handbook [Internet]. Adelaide (South Australia): Australian Medicines Handbook; 2026 [cited 2026 July 21]. Available from: https://amhonline.amh.net.au/

Advanced Pharmacy Australia. Noradrenaline (Norepinephrine). In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2026 [cited 2026 July 21]. Available from: http://aidh.hcn.com.au

British National Formulary. BNF for Children. 2025-26 ed. London, UK: BMJ Group and Pharmaceutical Press; 2025. p. 145-146.

Truven Health Analytics. Norepinephrine. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2026 [cited 2026 July 21]. Available from: https://neofax.micromedexsolutions.com/

UpToDate Lexidrug. Norepinephrine (noradrenaline): Pediatric drug information. In: UpToDate Lexidrug [Internet]. Wolters Kluwer; 2026. [cited 2026 July 21]. Available from: https://www.uptodate.com/

Document history

Keywords	Noradrenaline, norepinephrine, vasopressor, inotrope				
Abbreviations	IV: intravenous, CIVAS: Centralised Intravenous Additive Service, PCS: Pharmacy Compounding Service, KEMH: King Edward Memorial Hospital, PCH: Perth Children's Hospital				
Document Owner:	Chief Pharmacist				
Author/ Reviewer	KEMH & PCH Pharmacy/Neonatology Directorate				
Version Info:	V4.0 – full review, new template.				
Date First Issued:	03/2008	Last Reviewed:	21/07/2026	Review Date:	21/07/2031
Endorsed by:	Neonatal Directorate Management Group			Date:	25/08/2026
NSQHS Standards Applicable:	Std 1: Clinical Governance		Std 4: Medication Safety		
Printed or personally saved electronic copies of this document are considered uncontrolled. Access the current version from WNHS HealthPoint.					

This document can be made available in alternative formats on request for a person with a disability.

© North Metropolitan Health Service 2026