Noradrenaline (Norepinephrine) - Standard Concentration 2025

Newborn use only

Alert	**Prescribe as noradrenaline base**. Noradrenaline acid tartrate 2 mg/mL is equivalent to noradrenaline base 1 mg/mL (1:1000). The antidote for extravasation ischaemia is phentolamine. Phentolamine is only available via the Special Access Scheme.
Indication	Hyperdynamic shock secondary to sepsis.(1) Second line inotrope for treatment of fluid-refractory hypotensive shock in the setting of low systemic vascular resistance (SVR).(1) Circulatory failure in the setting of pulmonary hypertension refractory to nitric oxide.(2)
Action	Catecholamine with strong vascular alpha and cardiac beta-adrenergic action, moderate cardiac alpha-adrenergic actions.(3) Noradrenaline increases blood pressure, urine output and reduces lactate in newborns with septic shock refractory to volume expansion and other inotropes.(4) Noradrenaline increases systemic and pulmonary pressures, increases pulmonary blood flow and improves systemic oxygen saturation in newborn infants with pulmonary hypertension and circulatory failure.(2)
Drug Type	Inotrope and vasopressor
Trade Name	Hospira Levophed Noradrenaline 1:1000, Noradrenaline BNM 1:1000, Noradrenaline MYX 1:1000, Noradrenaline Juno 1:1000, Noradrenaline Medsurge 1:1000. **All contain Noradrenaline acid tartrate.**
Presentation	Noradrenaline acid tartrate 8 mg/4 mL is equivalent to **noradrenaline base 4 mg/4 mL (1:1000)** 20 microgram/mL in glucose 5% or sodium chloride 0.9% - Premade 50 mL syringe from Baxter
Dose	0.05-1 microgram/kg/minute of **noradrenaline base.*** (a) Suggested starting dose of 0.1 microgram/kg/minute and titrate up to achieve not only normotensive range of blood pressure but also improved tissue perfusion manifested by good urine output, improved FiO_2, and reduced lactate. (b) Consider starting at higher dose particularly in term infants with respiratory failure and hypotension refractory to other treatments. ***NOTE:** The time from the initiation of infusion to the entry of the drug into blood stream may influence the time it takes to see the clinical effect. This lag time can be reduced by (a) starting temporarily at a higher dose by increasing the infusion rate, and/or (b) priming the line as close to the entry point as possible to reduce the dead space – however, care should be taken not to deliver excess volume that may result in tachycardia and hypertension.
Dose adjustment	Therapeutic hypothermia – No information. ECMO – Titrate dose according to the patient's response. Renal impairment – No dose adjustment is required. Hepatic impairment – No dose adjustment is required.
Route	Continuous IV infusion
Preparation	**Note: Refer to Appendix for tables to assist with concentration selection.** **Weight suggestions for infusion concentrations below are a guide only. Clinicians may choose infusion concentration different to the suggested based on expected dose and the corresponding 24-hour fluid volumes**

Infant weight	<0.5 kg **AND** on low dose (<0.03 microgram/kg/min)	<1 kg	1 to <3 kg	≥3 kg	fluid restricted
Final noradrenaline concentration	**5 microgram/mL**	**10 microgram/mL**	**20 microgram/mL**	**60 microgram/mL**	**120 microgram/mL**
0.05 microgram/kg/minute is equal to	0.6 mL/kg/hour	0.3 mL/kg/hour	0.15 mL/kg/hour	0.05 mL/kg/hour	0.025 mL/kg/hour

20 mL Syringe

It is a 2-step dilution.

Step 1: Draw up noradrenaline (NA) and add compatible fluid* to make a diluted solution as per table below:

NA concentration	5 microgram/mL	10 microgram/mL	20 microgram/mL	60 microgram/mL	120 microgram/mL
Volume of NA (1 mg/mL)	4 mL (**4 mg**)	4 mL **(4 mg)**	4 mL **(4 mg)**	4 mL (**4 mg**)	4 mL **(4 mg)**
Volume of compatible fluid*	16 mL	16 mL	6 mL	6 mL	6 mL
Total volume	20 mL **200 microgram/mL**	20 mL **200 microgram/mL**	10 mL **400 microgram/mL**	10 mL **400 microgram/mL**	10 mL **400 microgram/mL**

Step 2: Draw up diluted noradrenaline (NA) and add compatible fluid* as per table below to make a final volume of 20 mL

NA concentration	5 microgram/mL	10 microgram/mL	20 microgram/mL	60 microgram/mL	120 microgram/mL
Volume of diluted NA from step 1	0.5 mL (100 microgram)	1 mL (200 microgram)	1 mL (400 microgram)	3 mL (1200 microgram)	6 mL (2400 microgram)
Volume of compatible fluid*	19.5 mL	19 mL	19 mL	17 mL	14 mL
Total volume	20 mL	20 mL	20 mL	20 mL	20 mL

* Compatible fluid: 5% glucose (preferred) or sodium chloride 0.9%.[8]

50 mL Syringe

It is a 2-step dilution.

Step 1: Draw up noradrenaline (NA) and add compatible fluid* to make a diluted solution as per table below:

NA concentration	10 microgram/mL	20 microgram/mL[#]	60 microgram/mL	120 microgram/mL
Volume of NA (1 mg/mL)	4 mL **(4 mg)**	4 mL **(4 mg)**	4 mL **(4 mg)**	8 mL **(8 mg)**
Volume of compatible fluid*	16 mL	6 mL	6 mL	2 mL
Total volume	20 mL **200 microgram/mL**	10 mL **400 microgram/mL**	10 mL **400 microgram/mL**	10 mL **800 microgram/mL**

Step 2: Draw up diluted noradrenaline (NA) and add compatible fluid* as per table below to make a final volume of 50 mL

Noradrenaline concentration	10 microgram/mL	20 microgram/mL[#]	60 microgram/mL	120 microgram/mL
Volume of diluted NA from step 1	2.5 mL (500 microgram)	2.5 mL (1000 microgram)	7.5 mL (3000 microgram)	7.5 mL (6000 microgram)
Volume of compatible fluid*	47.5 mL	47.5 mL	42.5 mL	42.5 mL
Total volume	50 mL	50 mL	50 mL	50 mL

* Compatible fluid: 5% glucose (preferred) or sodium chloride 0.9%.[8]

[#]Baxter premade 50 mL syringe containing 20 microgram/mL in glucose 5% or sodium chloride 0.9% is available.

Administration	Noradrenaline should be given via a central venous catheter (UVC or PICC) using a continuous infusion. Infuse through a dedicated line where possible.
Monitoring	Continuous heart rate, ECG and blood pressure. Assess urine output and peripheral perfusion frequently. Observe IV site closely for blanching and extravasation.
Contraindications	Infants with hypovolaemia until blood volume replaced - may cause severe peripheral and visceral vasoconstriction. Infants with mesenteric or peripheral thrombosis. Known hypersensitivity to sodium metabisulfite.
Precautions	Use with caution in preterm infants and infants with poor myocardial contractility as a sole inotrope/vasopressor. Thyrotoxicosis – may cause severe hypertension. Ensure adequate circulating blood volume prior to commencement. Avoid in hypertension. Overdosage may result in severe hypertension, reflex bradycardia, marked increase in peripheral resistance and decreased cardiac output. The infusion site should be checked frequently for free flow. Care should be taken to avoid extravasation into the tissues which may cause local necrosis. Do not cease infusion abruptly.
Drug Interactions	Should be given with close monitoring to patients exposed to monoamine oxidase inhibitors because severe, prolonged hypertension may result.
Adverse Reactions	Systemic hypertension especially at higher doses. Reflex bradycardia and arrhythmia. Tissue necrosis at infusion site with extravasation. See special comments. Renal and digital ischaemia may occur. Prolonged administration of any potent vasopressor may result in plasma volume depletion which should be continuously corrected by appropriate fluid and electrolyte replacement therapy.
Overdose	AUSTRALIA: Contact the Poisons Information Centre on **13 11 26** for management. NEW ZEALAND: Contact the National Poisons Centre on **0800 764 766** for management.
Compatibility	**Fluids:** Glucose 5% (preferred), sodium chloride 0.9% with glucose 5%, sodium chloride 0.9% (variable)[8], lactated Ringer's solution. **PN at Y-site:** Amino acid solutions and lipid emulsion.[8] **Y-site:** AmiODAROne, anidulafungin, benzylpenicillin (penicillin G sodium), bivalirudin, caffeine citrate, calcium chloride, calcium gluconate, caspofungin, cefaZOLin, cefOTAXIME, ceftAROLine fosamil, cefTAZIDIME, cisatracurium, clindamycin, clonidine, dexamethasone, dexmedetomidine, dobutamine, dopamine, doripenem, esmolol, fentanyl, flucONAZOLe, gentamicin, heparin sodium, hydrocortisone sodium succinate, labetalol, levetiracetam, magnesium sulfate, meropenem, metronidazole, midazolam, milrinone, morphine sulfate, mycophenolate mofetil, octreotide acetate, piperacillin/tazobactam, potassium chloride, remifentanil, sildenafil citrate, sodium nitroprusside, tigecycline, tobramycin, vancomycin, vecuronium.
Incompatibility	**Fluids:** No information. **Y-site:** AmiNOPHYLLine, amphotericin B, azATHIOPRINE, benzylpenicillin, folic acid, foscarnet, ganciclovir, hydralazine, indomethacin, insulin (short-acting), iron salts, pantoprazole, phenobarbitone, phenytoin, sodium bicarbonate, thiopentone. Incompatible with alkalis and oxidising agents. **No information:** Adrenaline hydrochloride is compatible with noradrenaline bitartrate but no stability data is available for adrenaline acid tartrate and noradrenaline acid tartrate.
Stability	Diluted solution stable for 24 hours
Storage	Ampoule: Store below 25°C. Protect from light. Discard unused portion. Do not freeze.
Excipients	Levophed brand: Sodium metabisulfite, sodium chloride, water for injections BNM and Juno brand: Sodium chloride and water for injections.
Special Comments	Do not administer with blood products. Glucose solutions (10%, 5%) are protective against the oxidation of noradrenaline. Discard if exhibiting colour change (oxidation).

	The antidote for extravasation ischaemia is phentolamine. Phentolamine is only available via the Special Access Scheme.
Evidence	**Background** Norepinephrine is an endogenous catecholamine which is released from adrenergic nerve endings. It has strong stimulating effects on α and β1 receptors and weaker effects on β2 receptors. Noradrenaline has more potent α mediated effects compared to adrenaline. This results in vascular constriction with a subsequent increase in systemic vascular resistance (SVR) and blood pressure (BP). It may be useful in septic shock, in order to correct the low SVR.[10] **Efficacy** Norepinephrine is the first inotrope of choice in septic shock in adults.[1] Norepinephrine is also recommended as an inotrope in children with septic shock.[2] However, there are no randomised trials comparing noradrenaline to other vasopressors in newborn infants. Noradrenaline was equivalent to other vasopressors in patients with hypotensive shock (newborns excluded) and resulted in less arrhythmia than dopamine.[3] (LOE I, GOR B). **Term newborns with septic shock:** Noradrenaline 0.2−0.5 microgram/kg/minute increased blood pressure, urine output and reduced lactate in newborns with septic shock refractory to volume expansion and dopamine/dobutamine.[4] (LOE IV, GOR C). **Term newborns with pulmonary hypertension and circulatory failure refractory to fluid resuscitation:** Noradrenaline 0.5–1 microgram/kg/minute improved lung function in newborn infants with PHN through a decrease in pulmonary/systemic artery pressure ratio and improved cardiac performance.[5] (LOE IV, GOR C). **Preterm newborns with refractory hypotension:** A few studies reported the effects of noradrenaline in preterm infants. Rowcliff et. al. reported noradrenaline [starting dose 0.4 (0.2–0.5) µg/kg/min; maximum dose 0.7 (0.4–1) µg/kg/min] in 48 hypotensive infants born ≤32 weeks' gestation with a primary diagnosis of sepsis (63%) or pulmonary hypertension (23%) refractory to other interventions. Normotension was achieved in all but one infant at a median dose of 0.5 µg/kg/min. The increased blood pressure did not lead to immediate improvement of pH, lactate or urine output. Tachycardia was common (31%). Mortality was 46% and morbidity high.[6] Rizk et. al. reported noradrenaline (starting dose 0.1 µg/kg/min; maximum dose 0.24 ± 0.15 µg/kg/min) in 30 hypotensive preterm infants with septic shock. Noradrenaline infusion was associated with improvements in blood pressure, urine output and FiO_2, and reduction in other inotrope support. Mortality was 33.3%, 5 of 16 survivors assessed had cerebral palsy and developmental delay.[7] Nissimov et al compared the clinical effectiveness of dopamine (DA) versus norepinephrine (NE) as first-line therapy for sepsis-related hypotension in preterm infants.[11] In this retrospective cohort study, preterm infants born < 35 weeks were included. A total of 156 infants were included, 113 received DA and 43 NE. The mean ± SD PMA at birth and at treatment for the DA and NE groups were 25.8 ± 2.3 vs. 25.2 ± 2.0 weeks and 27.7 ± 3.0 vs. 27.1 ± 2.6 weeks, respectively (p > 0.05). Authors found NE was more effective than DA in these infants. NE was associated with lower episode-related mortality [adjusted odds ratio (95% CI) 0.55 (0.33, 0.92)], pre-discharge mortality [0.60 (0.37, 0.97)], post-illness new diagnosis of significant neurologic injury [0.32 (0.13, 0.82)], and subsequent occurrence of NEC/sepsis among the survivors [0.34, (0.18, 0.65)].[11] Gupta et al, reported a retrospective cohort study describing the clinical responses in neonates in shock treated with NE infusion. Fifty infants received NE with mean (SD) gestational age of 34.3 (4.3) weeks and a mean birth weight of 2215 (911) g. Treatment began at a median age of 36 (IQR: 15.2, 67.2) hours of life and lasted 30.5 (IQR: 12.7, 58) hours. NE was administered at 0.1–0.4 mcg/kg/min. Mean BP improved from 34.4 mm Hg (SD: 6.6) at baseline to 39.4 mm Hg (SD: 10.5, p < 0.001) at 6 h, to 39.6 mm Hg (SD: 12.1, p = 0.002) at 12 h and to 40.4 mm Hg (SD: 15.5, p = 0.004) at 24 h after NE initiation. Urine output improved within 24 h [1.5 mL/kg/h (0.5, 2.3) at baseline to 3 (1.9, 4.3) at 24 h; p = 0.04]. Oxygen requirement decreased after NE initiation. ANMF group consensus: The above studies, and the clinical experience gained from the current clinical practice in Australian settings support the use of norepinephrine for the treatment of hypotension, in particular refractory vasodilatory hypotension (LOE IV, GOR C). **Safety** In non-newborn patients, noradrenaline is associated with less arrhythmia compared to patients treated with dopamine. Overdose may result in severe hypertension, reflex bradycardia, marked increase in peripheral resistance and decreased cardiac output. Cohort studies show that delay in the use of inotropic therapies is associated with major increases in mortality risk. This delay is often related to difficulty in attaining central

	access. Inotropes can be given peripherally until central venous access can be attained in children who are not responsive to fluid resuscitation.[1] **Pharmacokinetics** The onset of action is rapid after intravenous infusion. The half-life of intravenous noradrenaline has not been reported in sick newborn infants.[8]
References	1. Dellinger RP, Levy MM, Rhodes A, Annane D, Gerlach H, Opal SM, Sevransky JE, Sprung CL, Douglas IS, Jaeschke R, Osborn TM. Surviving Sepsis Campaign: international guidelines for management of severe sepsis and septic shock, 2012. Intensive care medicine. 2013 Feb 1;39(2):165-228. 2. Brierley J, Carcillo JA, Choong K, Cornell T, Decaen A, Deymann A, Doctor A, Davis A, Duff J, Dugas MA, Duncan A, Evans B, Feldman J, Felmet K, Fisher G, Frankel L, Jeffries H, Greenwald B, Gutierrez J, Hall M, Han YY, Hanson J, Hazelzet J, Hernan L, Kiff J, Kissoon N, Kon A, Irazuzta J, Lin J, Lorts A, Mariscalco M, Mehta R, Nadel S, Nguyen T, Nicholson C, Peters M, Okhuysen-Cawley R, Poulton T, Relves M, Rodriguez A, Rozenfeld R, Schnitzler E, Shanley T, Kache S, Skippen P, Torres A, von Dessauer B, Weingarten J, Yeh T, Zaritsky A, Stojadinovic B, Zimmerman J, Zuckerberg A. Clinical practice parameters for hemodynamic support of pediatric and neonatal septic shock: 2007 update from the American College of Critical Care Medicine. Crit Care Med. 2009;37:666-88. 3. Havel C, Arrich J, Losert H, Gamper G, Mullner M, Herkner H. Vasopressors for hypotensive shock. The Cochrane database of systematic reviews. 2011:CD003709. 4. Tourneux P, Rakza T, Abazine A, Krim G, Storme L. Noradrenaline for management of septic shock refractory to fluid loading and dopamine or dobutamine in full-term newborn infants. Acta paediatrica. 2008;97:177-80. 5. Tourneux P, Rakza T, Bouissou A, Krim G, Storme L. Pulmonary circulatory effects of norepinephrine in newborn infants with persistent pulmonary hypertension. The Journal of pediatrics. 2008;153:345-9. 6. Rowcliff K, de Waal K, Mohamed AL, Chaudhari T. Noradrenaline in preterm infants with cardiovascular compromise. Eur J Pediatr. 2016;175:1967-73. 7. Rizk MY, Lapointe A, Lefebvre F, Barrington KJ. Norepinephrine infusion improves haemodynamics in the preterm infants during septic shock. Acta paediatrica. 2018;107:408-13. 8. Norepinephrine bitartrate. MerativeTM Micromedex® Complete IV Compatibility (electronic version). Merative, Ann Arbor, Michigan, USA. Available at: https://www.micromedexsolutions.com/ (cited: Jan/22/2026). 9. Noradrenaline Juno. Accessed via MIMS online on 12 March 2023. 10. Dempsey E, Rabe H. The use of cardiotonic drugs in neonates. Clinics in perinatology. 2019 Jun 1;46(2):273-90. 11. Nissimov S, Joye S, Kharrat A, Zhu F, Ripstein G, Baczynski M, Choudhury J, Jasani B, Deshpande P, Ye XY, Weisz DE. Dopamine or norepinephrine for sepsis-related hypotension in preterm infants: a retrospective cohort study. European Journal of Pediatrics. 2022 Dec 22:1-0. 12. Gupta S, Agrawal G, Thakur S, Gupta A, Wazir S. The effect of norepinephrine on clinical and hemodynamic parameters in neonates with shock: a retrospective cohort study. European Journal of Pediatrics. 2022 Jun;181(6):2379-87.

Appendix

Infusion tables to assist with concentration selection

Table 1: Infusion rates when using noradrenaline concentration **5 microgram/mL**
(suggested for weight <0.5 kg AND on low dose <0.03 microgram/kg/minute)

Rate (mL/hr)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Weight (kg)	**Approximate microgram/kg/minute**									
0.5	0.02	0.03	0.05	0.07	0.08	0.10	0.12	0.13	0.15	0.17
1	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.08
1.5	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06
2	<0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04
2.5	<0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03
3	<0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03
3.5	<0.01	<0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
4	<0.01	<0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02
4.5	<0.01	<0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
5	<0.01	<0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02

Table 2: Infusion rates when using noradrenaline concentration **10 microgram/mL**
(suggested weight <1 kg)

Rate (mL/hr)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Weight (kg)	**Approximate microgram/kg/minute**									
0.5	0.03	0.07	0.1	0.13	0.17	0.2	0.23	0.27	0.3	0.33
1	0.02	0.03	0.05	0.07	0.08	0.1	0.12	0.13	0.15	0.17
1.5	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.09	0.1	0.11
2	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.08
2.5	0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07
3	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06
3.5	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05
4	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04
4.5	0.00	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04
5	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03

Table 3: Infusion rates when using noradrenaline concentration **20 microgram/mL**
(suggested weight 1 to <3 kg)

Rate (mL/hr)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Weight (kg)	Approximate microgram/kg/minute									
0.5	0.07	0.13	0.2	0.27	0.33	0.4	0.47	0.53	0.6	0.67
1	0.03	0.07	0.1	0.13	0.17	0.2	0.23	0.27	0.3	0.33
1.5	0.02	0.04	0.07	0.09	0.11	0.13	0.16	0.18	0.2	0.22
2	0.02	0.03	0.05	0.07	0.08	0.1	0.12	0.13	0.15	0.17
2.5	0.01	0.03	0.04	0.05	0.07	0.08	0.09	0.11	0.12	0.13
3	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.09	0.10	0.11
3.5	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
4	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.08
4.5	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.07
5	0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07

Table 4: Infusion rates when using noradrenaline concentration **60 microgram/mL**
(suggested weight ≥3 kg)

Rate (mL/hr)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Weight (kg)	Approximate microgram/kg/minute									
0.5	0.2	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2
1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
1.5	0.07	0.13	0.2	0.27	0.33	0.4	0.47	0.53	0.6	0.67
2	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5
2.5	0.04	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.4
3	0.03	0.07	0.1	0.13	0.17	0.2	0.23	0.27	0.3	0.33
3.5	0.03	0.06	0.09	0.11	0.14	0.17	0.2	0.23	0.26	0.29
4	0.03	0.05	0.08	0.1	0.13	0.15	0.18	0.2	0.23	0.25
4.5	0.02	0.04	0.07	0.09	0.11	0.13	0.16	0.18	0.2	0.22
5	0.02	0.04	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2

Table 5: Infusion rates when using noradrenaline concentration **120 microgram/mL**
(suggested for fluid restricted babies requiring high inotropic support)

Rate (mL/hr)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Weight (kg)	Approximate microgram/kg/minute									
0.5	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4
1	0.2	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2
1.5	0.13	0.27	0.4	0.53	0.67	0.8	0.93	1.07	1.2	1.33
2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
2.5	0.08	0.16	0.24	0.32	0.4	0.48	0.56	0.64	0.72	0.8
3	0.07	0.13	0.2	0.27	0.33	0.4	0.47	0.53	0.6	0.67
3.5	0.06	0.11	0.17	0.23	0.29	0.34	0.4	0.46	0.51	0.57
4	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5
4.5	0.04	0.09	0.13	0.18	0.22	0.27	0.31	0.36	0.4	0.44
5	0.04	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.4

	Dose (microgram/kg/min) = $\frac{\text{Rate (mL/hr) x Concentration (microgram/mL)}}{\text{Weight (kg) x 60}}$ Rate (mL/hr) = $\frac{\text{60 x Dose (microgram/kg/min) x Weight (kg)}}{\text{Concentration (microgram/mL)}}$

VERSION/NUMBER	DATE
Original 1.0	26/05/2025
Version 1.0 (minor errata)	5/06/2025
Version 1.0 (minor errata)	7/07/2025
Version 1.0 (minor errata)	19/02/2026
Current 1.1	16/04/2026
Review	26/05/2030

This standard concentration formulary has been developed by the ANMF standard concentration working group.
The working group (in alphabetical order): Mohammad Irfan Azeem, Susannah Brew, Cindy Chen, Michelle Jenkins, Kerrie Knox, Rebecca O'Grady

Authors Contribution of the current version

Primary author	Srinivas Bolisetty
Expert review	Koert de Waal, Martin Kluckow
Evidence Review	Srinivas Bolisetty
Nursing Review	Eszter Jozsa
Pharmacy Review	Susannah Brew, Kerrie Knox
ANMF Group contributors	Bhavesh Mehta, Thao Tran, Michelle Jenkins, Nilkant Phad, Rebecca Barzegar, Mohammad Irfan Azeem, Rebecca O'Grady, Cindy Chen, Celia Cunha da Silva, Bryony Malloy, Renae Gengaroli, Samantha Hassall, Jutta van den Boom, Amber Seigel, Dianne Lee, Banjamin Emerson-Parker, Gloria Yoo, Charles Tian, Trong Tran, Emma Roylance, Catherine Walsh
Final editing	Thao Tran
Electronic version	Ian Callander
Facilitator	Srinivas Bolisetty

Citation for the current version

Australasian Neonatal Medicines Formulary (ANMF). Noradrenaline (Norepinephrine) - Standard concentration. Version number: 1.1. Date of publication 16/04/2026. https://www.anmfonline.org/