

Noradrenaline (Norepinephrine) Intravenous Infusion for Adults

Who can administer

Administration RESTRICTED - see [Appendix 1](#)

Important information

- For administration in **specialist units only** - Intensive care, high dependency, coronary care, CTICU, EDÂ resus
- For Central line administration only
- Doses given are in terms of noradrenaline **BASE**
- For Y-site compatibility [see below](#)

Available preparations

Noradrenaline 0.08mg/ml solution for infusion (**4mg baseÂ in 50ml**)

Other strengths also may be available - see Further Information

Reconstitution

- **Noradrenaline 0.08mg/ml solution for infusion:** Already in solution
- **Ampoules (only) to be diluted further prior to administration** (generally only used when the pre-made solution is unavailable, or when higher concentrations are required) (see Further Information re ampoules)
- Use a 5 micron filter needle when drawing up contents of ampoule

Infusion fluids

Glucose 5%

Methods of intravenous administration

Continuous intravenous infusion (administer using an electronically controlled infusion device)

CENTRAL LINEÂ administrationÂ ONLY

- 4mgÂ **BASE** (=4mlÂ of 1:1000 solution)Â in 50ml
- Administer at a suitable rate, titrated to pressor effect observedÂ - see under 'dose'
- Higher concentrations may occasionally be used- see under Further Information

Dose in adults

Continuous intravenous infusion (ICU, HDU, CCU, CTICUÂ only, EDÂ resus)

- Note: 4mg **baseÂ** inÂ 50mlÂ = 80 micrograms per ml ^(ref 1)

There are two different ways of dosing noradrenaline ^(ref 2)

Important note:

- If patient is of normal to high body weight, consider using Method 1 (**STANDARD APPROACH**)- to avoid inadvertent overdose
- If patient is less than 50kg- consider using Method 2 (**WEIGHT BASED APPROACH**)

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1:Â Method 1Â (STANDARD APPROACH) - see Table 1

- Rate expressed in **micrograms/minute**
- **Initial rate:**Â 5 to 15 micrograms/minute, titrated to target blood pressure
- **Usual dose range:**Â 2 to 80 micrograms/minute.Â Higher doses may be required.
- **Do not stop infusion suddenly**Â as abrupt withdrawal can result in acute hypotension

Table 1 (STANDARD APPROACH) Rate (ml/hr) ofÂ a 4mg in 50ml infusion using doses in micrograms/minute																	
Dosage (microgram/minute)	1	2	3	4	5	6	7	8	9	10	15	20Â	25Â	30Â	40Â	60Â	80mcg/minÂ
4mg/50mlÂ (rate in ml/hour)	Â 0.75	1.5	2.3Â	3Â	3.8Â	4.5Â	5.3Â	6Â	6.8Â	7.5Â	11.3Â	15Â	18.8Â	22.5Â	30Â	45Â	60Â

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2:Â Method 2Â (WEIGHT-BASED APPROACH) - see Table 2 belowÂ

- Rate expressed in micrograms/**kg**/minute
- **Initial rate:** 0.05 to 0.15 micrograms/**kg**/minute,Â titrated to target blood pressure
- **Usual dose range:** 0.025 to 1 microgram/**kg**/minute
- **Do not stop infusion suddenly**Â as abrupt withdrawal can result in acute hypotension

Table 2: (WEIGHT-BASED APPROACH) Rate (ml/hr) ofÂ a 4mg in 50ml infusion using doses in micrograms/KG/minute						
Â	Weight of patient in 10kg increments below (rate is given in mL/hour in this table)					
DoseÂ (microgram/kg/min)- below	30kg	40kg	50kgÂ	60kgÂ	70kg	80kg
0.025	0.6	0.8	0.9	1.1	1.3	1.5
0.05	1.1	1.5	1.9	2.3	2.6	3.0
0.1	2.3	3.0	3.8	4.5	5.3	6.0
0.15	3.4	4.5	5.6	6.8	7.9	9.0
0.2	4.5	6.0	7.5	9.0	10.5	12.0
0.25	5.6	7.5	9.4	11.3	13.1	15.0
0.3	6.8	9.0	11.3	13.5	15.8	18.0
0.35	7.9	10.5	13.1	15.8	18.4	21.0
0.4	9.0	12.0	15.0	18.0	21.0	24.0
0.45	10.1	13.5	16.9	20.3	23.6	27.0
0.5	11.3	15.0	18.8	22.5	26.3	30.0
0.55	12.4	16.5	20.6	24.8	28.9	33.0
0.6	13.5	18.0	22.5	27.0	31.5	36.0
0.65	14.6	19.5	24.4	29.3	34.1	39.0

Monitoring

- Monitor infusion site frequently - extravasation may cause local tissue necrosis
- Monitor blood pressure continuously

Further information

- **Alternative preparations**

- Noradrenaline **base 2mg in 2ml** ampoule (other unlicensed forms may be used during product shortages)

- **Alternative concentrations**

- For patients requiring high doses you may prepare a solution containing 8mg **BASE** (= 8ml of 1:1000 solution) in 50ml **-unlicensed concentration (ref 1)**
- Note: 8mg **base** in 50ml = 160 micrograms per ml
- If extravasation occurs, give phentolamine (into site of extravasation) 5 to 10mg in 10 to 20ml sodium chloride 0.9% ^(ref 2)
- The product license for the solution for infusion stipulates "adults weighing over 50kg". However, this monograph does not limit its use in patients below this weight ^(ref 3)

Storage

- Store below 25°C
- Do not use if solution is brown, pink or dark yellow, or it contains precipitates

References

- SPC Noradrenaline vials (Pfizer) June 2021
- SPC: Noradrenaline pre-filled solution for infusion (Aguettant) March 2020

1: Injectable medicines guide- Medusa, downloaded 01/03/2022

2: UptoDate. downloaded 01/03/2022

3: Kidd, PS. "Noradrenaline 0.08mg/ml solution for infusion: patient's weighing less than 50kg". Personal opinion. September 2022

Therapeutic classification

Vasoconstrictor sympathomimetic