

## Noradrenaline Infusion Rates for Adult Critical Care **4mg in 50mL** of Dextrose 5% (“single strength”)

Using a **4mg in 50 mL (80 micrograms in 1 mL)** noradrenaline syringe:

Dosage (microgram/kg/minute)	Ideal body weight			
	40kg	60kg	80kg	100kg
0.01	0.3 mL/hour	0.5mL/hour	0.6 mL/hour	0.8 mL/hour
0.1	3 mL/hour	4.5 mL/hour	6 mL/hour	7.5 mL/hour
0.2	6 mL/hour	9 mL/hour	* 12 mL/hour	*15 mL/hour
0.5	*15 mL/hour	*22.5 mL/hr	*30 mL/hour	*37.5 mL/hour

\*consider using a more concentrated solution

### Dosing thresholds



**Low = up to 0.2micrograms/kg/min**

**Moderate = 0.2 - 0.5micrograms/kg/min**    **> 0.2 mcg/kg/min**    Consider PiCCO / Cardiac Output monitoring

Consider steroids

Consider echocardiogram - if clinician concern

**High more than 0.5 micrograms/kg/min**    **> 1mcg/kg/min**    Consider vasopressin

### Alert a senior doctor or the nurse in charge:

- When transitioning from **low** to **moderate**, or **moderate** to **high** dose.
- If the noradrenaline dose doubles over a six hour period

## Noradrenaline Infusion Rates for Adult Critical Care **8mg in 50mL** of Dextrose 5% (“double strength”)

Using an **8mg in 50 mL (160 micrograms in 1 mL)** noradrenaline syringe:

Dosage (microgram/kg/minute)	Ideal body weight			
	40kg	60kg	80kg	100kg
<b>0.01</b>	‡ 0.2 mL/hour	‡ 0.2 mL/hour	‡ 0.3 mL/hour	‡0.4 mL/hour
<b>0.1</b>	‡1.5 mL/hour	2.3 mL/hour	3 mL/hour	3.8 mL/hour
<b>0.2</b>	3 mL/hour	4.5 mL/hour	6 mL/hour	7.5 mL/hour
<b>0.5</b>	7.5 mL/hour	*11.3 mL/hr	*15mL/hour	*18.8 mL/hour

\*consider using a more concentrated solution

‡ consider using a less concentrated solution

### Dosing thresholds



**Low = up to 0.2micrograms/kg/min**

**Moderate = 0.2 - 0.5micrograms/kg/min**    > 0.2 mcg/kg/min    Consider PiCCO / Cardiac Output monitoring

Consider steroids

Consider echocardiogram - if clinician concern

**High more than 0.5 micrograms/kg/min**    > 1mcg/kg/min    Consider vasopressin

### Alert a senior doctor or the nurse in charge:

- When transitioning from **low** to **moderate**, or **moderate** to **high** dose.
- If the noradrenaline dose doubles over a six hour period

## Noradrenaline Infusion Rates for Adult Critical Care **16mg in 50mL** of Dextrose 5% (“quad strength”)

Using a **16mg in 50 mL (320 micrograms in 1 mL)** noradrenaline syringe:

Dosage (microgram/kg/minute)	Ideal body weight			
	40kg	60kg	80kg	100kg
0.01	‡0.1 mL/hour	‡0.1 mL/hour	‡0.2 mL/hour	‡0.2mL/hour
0.1	‡ 0.8 mL/hour	‡ 1.1 mL/hour	‡ 1.5 mL/hour	‡ 1.9mL/hour
0.2	‡ 1.5 mL/hour	2.3 mL/hour	3 mL/hour	3.8 mL/hour
0.5	3.8 mL/hour	5.6 mL/hr	7.5 mL/hour	9.4mL/hour
1	7.5 mL/hour	*11.2 mL/hour	*15 mL/hour	*18.8 mL/hour

\*consider using a more concentrated solution

‡ consider using a less concentrated solution

### Dosing thresholds



**Low = up to 0.2micrograms/kg/min**

**Moderate = 0.2 - 0.5micrograms/kg/min**    **> 0.2 mcg/kg/min**    Consider PiCCO / Cardiac Output monitoring  
Consider steroids

**High more than 0.5 micrograms/kg/min**    **> 1mcg/kg/min**    Consider echocardiogram - if clinician concern

**High more than 0.5 micrograms/kg/min**    **> 1mcg/kg/min**    Consider vasopressin

### Alert a senior doctor or the nurse in charge:

- When transitioning from **low** to **moderate**, or **moderate** to **high** dose.
- If the noradrenaline dose doubles over a six hour period

---

## Noradrenaline Calculations for Adult Critical Care

---

Ideal body weight: If the patient's height is not known, measure ulna length and enter into MetaVision or use BAPEN MUST tool to estimate height

**ALWAYS set the volume to be infused alarm on the pump as an alert.**

### Calculating the infusion rate when you know the dose:

$$\text{Noradrenaline infusion rate (mL/hour)} = \frac{\text{Dose (micrograms/kg/minute)} \times \text{Ideal body weight (kg)} \times 60 \text{ (minutes)}}{\text{Concentration (micrograms/mL)}}$$

**For example:** to calculate the infusion rate to administer 0.1 micrograms/kg/minute of noradrenaline to a 70kg patient using a solution of noradrenaline 4mg in 50 mL glucose (80 micrograms in 1 mL):

$$\text{Noradrenaline infusion rate (mL/hour)} = \frac{0.1 \text{ (micrograms/kg/minute)} \times 70 \text{ (kg)} \times 60 \text{ (minutes)}}{80 \text{ (micrograms/mL)}} = \frac{420}{80} = 5.25 \text{ mL/hour}$$

Most of our pumps are only accurate to 0.1mL/hour, if the rate includes a 0.05 figure, round the rate UP to the next decimal place when setting the infusion pump e.g. round 5.25 mL/hour up to 5.3mL/hour

### Calculating the dose when you know the infusion rate:

$$\text{Noradrenaline dose (micrograms/kg/min)} = \frac{\text{Infusion Rate (mL/hr)} \times \text{Concentration (micrograms/mL)}}{\text{Ideal body weight (kg)} \times 60 \text{ (minutes)}}$$

**For example:** to calculate the dose of noradrenaline (in micrograms/kg/min) being administered to an 65kg patient using a solution of 8mg noradrenaline in 50 ml glucose (160 micrograms in 1ml) where the pump is running at 8.2ml/hr:

$$\text{Noradrenaline dose (micrograms/kg/min)} = \frac{8.2 \text{ (mL/hr)} \times 160 \text{ (micrograms/mL)}}{65 \text{ (kg)} \times 60 \text{ (minutes)}} = \frac{1,312}{3,900} = 0.34 \text{ micrograms/kg/min}$$