Noradrenaline Infusion Rates for Adult Critical Care 4mg in 50mL

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

<table>
<thead>
<tr>
<th>Dosage (microgram/kg/minute)</th>
<th>Ideal body weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40kg</td>
</tr>
<tr>
<td>0.01</td>
<td>0.3 mL/hour</td>
</tr>
<tr>
<td>0.1</td>
<td>3 mL/hour</td>
</tr>
<tr>
<td>0.2</td>
<td>6 mL/hour</td>
</tr>
<tr>
<td>0.5</td>
<td>*15 mL/hour</td>
</tr>
</tbody>
</table>

*consider using a more concentrated solution

Dosing thresholds

- **Low** = up to 0.2 micrograms/kg/min
- **Moderate** = 0.2 - 0.5 micrograms/kg/min > 0.2 mcg/kg/min Consider PiCCO
  - Consider steroids
  - Consider echocardiogram - if clinician concern
- **High** more than 0.5 micrograms/kg/min > 1 mcg/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

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

<table>
<thead>
<tr>
<th>Dosage (microgram/kg/minute)</th>
<th>Ideal body weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40kg</td>
</tr>
<tr>
<td>0.01</td>
<td>‡ 0.2 mL/hour</td>
</tr>
<tr>
<td>0.1</td>
<td>1.5 mL/hour</td>
</tr>
<tr>
<td>0.2</td>
<td>3 mL/hour</td>
</tr>
<tr>
<td>0.5</td>
<td>7.5 mL/hour</td>
</tr>
</tbody>
</table>

*consider using a more concentrated solution
‡ consider using a less concentrated solution

Dosing thresholds

Low = up to 0.2 micrograms/kg/min

Moderate = 0.2 - 0.5 micrograms/kg/min > 0.2 mcg/kg/min Consider PiCCO

Consider steroids
Consider echocardiogram - if clinician concern

High more than 0.5 micrograms/kg/min > 1 mcg/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

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

<table>
<thead>
<tr>
<th>Dosage (microgram/kg/minute)</th>
<th>Ideal body weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40kg</td>
</tr>
<tr>
<td>0.01</td>
<td>‡0.1 mL/hour</td>
</tr>
<tr>
<td>0.1</td>
<td>0.8 mL/hour</td>
</tr>
<tr>
<td>0.2</td>
<td>1.5 mL/hour</td>
</tr>
<tr>
<td>0.5</td>
<td>3.8 mL/hour</td>
</tr>
<tr>
<td>1</td>
<td>7.5 mL/hour</td>
</tr>
</tbody>
</table>

*consider using a more concentrated solution
‡ consider using a less concentrated solution

Dosing thresholds

Low = up to 0.2 micrograms/kg/min
Moderate = 0.2 - 0.5 micrograms/kg/min > 0.2 mcg/kg/min Consider PiCCO
Consider steroids
Consider echocardiogram - if clinician concern
High more than 0.5 micrograms/kg/min > 1 mcg/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:**

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

**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):

\[
\begin{align*}
\text{Noradrenaline infusion rate (mL/hour)} &= \frac{0.1 \text{ micrograms/kg/minute}}{80 \text{ micrograms/mL}} \times \frac{70 \text{ kg}}{60 \text{ minutes}} \\
&= 5.25 \text{ mL/hour}
\end{align*}
\]

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:**

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

**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:

\[
\begin{align*}
\text{Noradrenaline dose (micrograms/kg/min)} &= 8.2 \text{ mL/hr} \times 160 \text{ micrograms/mL} \times \frac{65 \text{ kg}}{3,900 \text{ minutes}} \\
&= 1.312 \text{ micrograms/kg/min}
\end{align*}
\]