Drug Therapy Protocols: Noradrenaline (norepinephrine)

<table>
<thead>
<tr>
<th>Policy code</th>
<th>DTP_NOR_0722</th>
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</thead>
<tbody>
<tr>
<td>Date</td>
<td>July, 2022</td>
</tr>
<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to noradrenaline (norepinephrine) administration.</td>
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<tr>
<td>Scope</td>
<td>Applies to all Queensland Ambulance Service (QAS) clinical staff.</td>
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<tr>
<td>Health care setting</td>
<td>Pre-hospital assessment and treatment.</td>
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<tr>
<td>Population</td>
<td>Applies to all ages unless specifically mentioned.</td>
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<tr>
<td>Source of funding</td>
<td>Internal – 100%</td>
</tr>
<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>July, 2024</td>
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**Noradrenaline (norepinephrine)**

**Drug class**
Sympathomimetic

**Pharmacology**
Noradrenaline is a vasopressor which acts predominantly on $\alpha$, and to a lesser extent $\beta$ adrenergic receptors thereby increasing vascular tone.$^{[1,2]}$

**Metabolism**
Noradrenaline is primarily metabolised by monoamine oxidase at the synaptic level.$^{[1]}$

**Indications**
- Shock unresponsive to adequate fluid resuscitation (excluding haemorrhagic causes)

**Contraindications**
- Nil

**Precautions**
- Hypertension
- Hypovolaemic shock
- Concurrent MAOI therapy

**Side effects**
- Reflex bradycardia
- Hypertension
- Extravasation necrosis

**Presentation**
- Variable (hospital presentations may vary)

<table>
<thead>
<tr>
<th>Onset (IV)</th>
<th>Duration (IV)</th>
<th>Half-life</th>
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<tbody>
<tr>
<td>30 seconds</td>
<td>5–10 minutes</td>
<td>2 minutes</td>
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Special notes

- Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the QAS Clinical Consultation and Advice Line.
- All noradrenaline (norepinephrine) infusions must be initiated using hospital supplies; noradrenaline will not be supplied by QAS.
- Authorised officers should, where possible, administer noradrenaline (norepinephrine) infusions through an appropriately placed CVL.
- Authorised officers should, where possible, use invasive pressure monitoring for patients being administered noradrenaline (norepinephrine) infusions.
- Noradrenaline (norepinephrine) infusions must be administered through a dedicated line.

Schedule

- S4 (Restricted drugs).

Routes of administration

<table>
<thead>
<tr>
<th>Intravenous infusion (IV INF)</th>
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</table>

Special notes

- Noradrenaline (norepinephrine) infusions must be administered through a dedicated line.

Adult dosages

**Shock unresponsive to adequate fluid resuscitation**
(excluding haemorrhagic causes)

<table>
<thead>
<tr>
<th>IV INF</th>
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<tbody>
<tr>
<td>CCP ESoP aeromedical – RSQ Clinical Coordinator consultation and approval required in all situations. Commence infusion at 5 microg/minute (5 mL/hour) and increase by 1–2 microg/minute every 3–5 minutes as determined by MAP. Syringe preparation: Mix 3 mg of noradrenaline (norepinephrine) with sodium chloride 0.9% to achieve a final concentration of 3 mg/50 mL (60 microg/mL). Ensure all syringes are appropriately labelled. Administer via syringe driver.</td>
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Pediatric dosages

**Note:** QAS officers are NOT authorised to administer noradrenaline (norepinephrine) to paediatric patients.