Drug Therapy Protocols: Metaraminol

<table>
<thead>
<tr>
<th>Policy code</th>
<th>DTP_META_0722</th>
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<tbody>
<tr>
<td>Date</td>
<td>July, 2022</td>
</tr>
<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to metaraminol 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>
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All feedback and suggestions are welcome. Please forward to: Clinical.Guidelines@ambulance.qld.gov.au

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**Drug class**
Sympathomimetic amine[^1]

**Pharmacology**
Metaraminol causes release of accumulated noradrenaline from nerve endings which then acts to increase systolic and diastolic blood pressure by directly and indirectly stimulating the alpha receptors in the sympathetic nervous system. This alpha stimulation causes vasoconstriction of the blood vessels. It also has a positive inotropic effect on the heart.[^1,^2]

**Metabolism**
Hepatic.[^1]

**Indications[^1,^2]**
- Hypotension (without hypovolaemia)
- Prevention and treatment of the acute hypotensive state occurring with anaesthesia

**Contraindications**
- Allergy AND/OR Adverse Drug Reaction
- Current MAOI therapy
- Pregnancy
- Hypovolaemia secondary to ongoing haemorrhage

**Precautions**
- Ischaemic heart disease
- Thyroid disease
- Hypertension
- Diabetes

**Side effects[^1,^2]**
- Tissue necrosis if extravasation occurs
- Reduced blood flow to ‘non vital’ (skin and gut) organs

**Presentation**
- Ampoule, 3 mg/6 mL *metaraminol*

<table>
<thead>
<tr>
<th>Onset (IV)</th>
<th>Duration (IV)</th>
<th>Half-life</th>
</tr>
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<tbody>
<tr>
<td>1–2 minutes</td>
<td>up to 20 minutes</td>
<td>Minutes</td>
</tr>
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</table>

[^1]: Refer to scientific literature for details.
**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*.

- Rapid excessive hypertension may precipitate APO, cardiac arrhythmias, cerebral haemorrhage or cardiac arrest.

- All cannulae/EZ-IO® and IV lines must be flushed thoroughly with sodium chloride 0.9% following each medication administration.

**Schedule**

- S4 (Restricted drugs).

**Routes of administration**

- Intravenous injection (IV)
- Intraosseous injection (IO)

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**Adult dosages**[^2]

- **Hypotension** (without hypovolaemia)
- **Prevention and treatment of the acute hypotensive state occurring with anaesthesia**

<table>
<thead>
<tr>
<th>Route</th>
<th>Dosage</th>
<th>Remarks</th>
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<tr>
<td>IV/IO</td>
<td>0.5 mg</td>
<td>Repeated at 1 minute intervals. No maximum dose.</td>
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**Paediatric dosages**

- **Note:** QAS officers are NOT authorised to administer metaraminol to paediatric patients.