Drug Therapy Protocols: Isoprenaline

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<tr>
<th>Date</th>
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<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to Isoprenaline administration.</td>
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<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
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Isoprenaline

Drug class
Chronotrope

Pharmacology
Isoprenaline is a synthetic sympathomimetic amine that is structurally related to adrenaline (epinephrine) but acts almost exclusively on Beta1 (β1) adrenergic receptors with a prominent chronotropic, inotropic and dromotropic effect.[1–3]

Metabolism
Isoprenaline is metabolised primarily in the liver, with metabolites excreted in the urine.[4]

Indications
- Bradycardia with poor perfusion (unresponsive to TCP)

Contraindications
- KSAR or hypersensitivity to isoprenaline
- Heart rate > 120 beats per minute
- Tachycardia or AV Block caused by Digoxin (digitalis) toxicity
- Active cardiogenic chest pain

Precautions
- Acute or recent myocardial infarction
- Ischaemic heart disease
- Hypotension secondary to intravascular volume depleted
- Hypertension

Side effects
- Palpitations
- Cardiogenic chest pain
- Dysrhythmias
- Headache

Presentation
- Ampoule, 1 mg/5 mL isoprenaline

Onset (IV INF)  |  Duration (IV INF)  |  Half-life
--- | --- | ---
Immediate  |  Not applicable  |  < 2 hours

April, 2016
Isoprenaline

**Schedule**
- S4 (Restricted drugs).

**Routes of administration**

**Intravenous infusion (IV INF)**

**Special notes**
- All isoprenaline infusions are to be initiated using hospital supplies; isoprenaline will not be carried by the QAS flight team. Hospital presentations may vary – final concentration must equal 3 mg/50 mL.
- Careful dose adjustment is required for patients with coronary insufficiency, diabetes or hyperthyroidism.
- All cannulae and IV lines must be flushed thoroughly with sodium chloride 0.9% following each medication administration.

**Adult dosages**

**Bradycardia with poor perfusion** (unresponsive to TCP)

**CCP ESoP aeromedical – RSQ Clinical Coordinator consultation and approval required in all situations.**

Commence infusion at 2 microg/minute (2 mL/hour) and increase by 1–2 microg/minute (1–2 mL/hour) every 3–5 minutes as determined by ventricular response and MAP.

**Syringe preparation:** Mix 3 mg (15 mL) of isoprenaline with 35 mL of glucose 5% in a 50 mL syringe to achieve a final concentration of 60 microg/mL. Ensure all syringes are appropriately labelled. Administer via syringe driver.

**Paediatric dosages**

**Note:** QAS officers are NOT authorised to administer isoprenaline to paediatric patients