

Policy code	DTP_ISO_0722	
Date	July, 2022	
Purpose	To ensure a consistent procedural approach to isoprenaline administration.	
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.	
Health care setting	Pre-hospital assessment and treatment.	
Population	Applies to all ages unless specifically mentioned.	
Source of funding	Internal – 100%	
Author	Clinical Quality & Patient Safety Unit, QAS	
Review date	July, 2024	
Information security	UNCLASSIFIED – Queensland Government Information Security Classification Framework.	
URL	https://ambulance.qld.gov.au/clinical.html	

While the QAS has attempted to contact all copyright owners, this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome. Please forward to: <u>Clinical.Guidelines@ambulance.qld.gov.au</u>

Disclaimer

The Digital Clinical Practice Manual is expressly intended for use by appropriately qualified QAS clinicians when performing duties and delivering ambulance services for, and on behalf of, the QAS.

The QAS disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this manual, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.

© State of Queensland (Queensland Ambulance Service) 2022.



This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives V4.0 International License

You are free to copy and communicate the work in its current form for non-commercial purposes, as long as you attribute the State of Queensland, Queensland Ambulance Service and comply with the licence terms. If you alter the work, you may not share or distribute the modified work. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.o/deed.en

For copyright permissions beyond the scope of this license please contact: <u>Clinical.Guidelines@ambulance.qld.gov.au</u>

Isoprenaline

July, 2022

Drug class

Chronotrope^[1]

Pharmacology

Isoprenaline is a synthetic sympathomimetic amine that is structurally related to adrenaline (epinephrine) but acts almost exclusively on Beta1 (β_1) adrenergic receptors with a prominent chronotropic, inotropic and dromotropic effect.^[1]

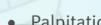
Metabolism

Isoprenaline is metabolised primarily in the liver, with metabolites excreted in the urine.^[1]

> Bradycardia with poor perfusion unresponsive to transcutaneous pacing (TCP)

- Allergy AND/OR Adverse Drug Reaction
- Heart rate > 120 beats per minute
- Tachycardia OR AV Block caused by Digoxin (digitalis) toxicity
- Active cardiogenic chest pain

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



- Palpitations
- Cardiogenic chest pain
- Dysrrhythmias
- Headache

• Ampoule, 1 mg/5 mL isoprenaline hydrochloride

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

Schedule

• S4 (Restricted drugs).

Routes of administration

Intravenous infusion (IV INF)

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 isoprenaline infusions must 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^[1-3]

IV

INF

CCP

CCP

ш

ardia 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