



NEONATAL Medication Monograph

ISOPRENALINE (Isoproterenol)





This document should be read in conjunction with this [DISCLAIMER](#)

Highly Restricted: Requires Neonatologist or Cardiologist approval before commencing

Presentation	Ampoule: 200microgram/mL
Description	Catecholamine, β -adrenoceptor agonist, sympathomimetic
Indications	Cardiac stimulation, peripheral vasodilation, relaxation of bronchial smooth muscle Acts on Beta-1 and Beta-2 adrenergic receptors <ul style="list-style-type: none"> • Shock • Cardiac arrest • Ventricular arrhythmias due to AV block • Bronchospasm
Contraindications	<i>Contraindications are relative as isoprenaline can be life saving</i> <ul style="list-style-type: none"> • Hypersensitivity to isoprenaline • Patients with tachyarrhythmias or ventricular arrhythmias requiring inotropic therapy
Precautions	<ul style="list-style-type: none"> • Correct hypovolaemia before using isoprenaline • Cardiogenic shock – may detrimentally increase myocardial oxygen consumption • Hyperthyroidism – may increase risk of tachycardia and Isoprenaline Medication Management Manual Page 2 of 4 arrhythmias • Hypertension – monitor blood pressure closely • Diabetes – increases insulin production, monitor blood glucose
Dosage	<u>Continuous Infusion:</u> 0.05 - 0.5 microgram/ kg/ minute Maximum dose: 2 microgram/ kg/ minute
Dosage Adjustment	Titrate dose according to heart rate response

Adverse Reactions	Tachycardia, cardiac dysrhythmia, hypertension, hypotension, vomiting, tremor, hypoglycaemia
Interactions	Isoprenaline is compatible with heparin
Compatible Fluids	Glucose 5%, Glucose 10%, Sodium chloride 0.9%
Preparation	<p>IV: Available from CIVAS (KEMH & PCH)</p> <p>Take 300 microgram of isoprenaline per kg of baby's weight (1.5mL/kg) and dilute to 50mL with appropriate diluent.</p> <p>Concentration 1mL/hour = 0.1 microgram/kg/minute</p> <p>If a different concentration is required, refer to the Calculation of Drug Infusion table.</p>
Administration	IV Infusion: Infuse via syringe pump
Monitoring	Continuous heart rate, blood pressure, ECG, respiratory rate, blood glucose
Storage	Store at room temperature, below 25°C
Notes	Solution should not be used if the solution is pinkish, slightly dark yellow or if a precipitate is present.
Related clinical guidelines	<p>Arrhythmias</p> <p>Cardiac: Routine Post-Operative Care</p> <p>NETS WA: Cardiac Dysrhythmias</p>
References	<p>Truven Health Analytics. Isoproterenol. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2018 [cited 2020 Feb 24]. Available from: https://neofax.micromedexsolutions.com/</p> <p>MIMS Australia. Title e.g. Isoprenaline hydrochloride. In: MIMS Online [Internet]. St Leonards (New South Wales): MIMS Australia; 2020 [cited 2020 Feb 24]. Available from: https://www.mimsonline.com.au</p>
References	Takemoto CK, Hodding JH, Kraus DM. Pediatric & neonatal dosage handbook with international trade names index : a universal resource for clinicians treating pediatric and neonatal patients. 24th ed. Hudson

	<p>(Ohio): Lexicomp; 2401. 2, p1116.</p> <p>Society of Hospital Pharmacists of Australia. Isoprenaline hydrochloride. In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2020 [cited 2020 Feb 24]. Available from: http://aidh.hcn.com.au</p> <p>American Society of Health-System Pharmacists. Isoproterenol hydrochloride. In: AHSF Drug Information [Internet]. [Bethesda, Maryland]; 2019 [cited 2020 Feb 24]. Available from: http://online.statref.com.kelibresources.health.wa.gov.au/titles?FxlD=141</p> <p>King Guide Publications, Inc. Isoproterenol hydrochloride. In: King Guide to Parenteral Admixtures [Internet]. Napa, CA; 2019 [cited 2020 Feb 24]. Available from: http://www.kingguide.com.kelibresources.health.wa.gov.au</p>
--	---

Keywords:	Isoprenaline, isoproterenol, cardiac shock, cardiac arrest		
Publishing:	<input checked="" type="checkbox"/> Intranet	<input checked="" type="checkbox"/> Internet	
Document owner:	Head of Department - Neonatology		
Author / Reviewer:	KEMH & PCH Pharmacy / Neonatology Directorate		
Date first issued:	September 2013	Version:	3.1
Last reviewed:	June 2020	Next review date:	February 2023
Endorsed by:	Neonatal Directorate Management Group	Date:	February 2020
Standards Applicable:	NSQHS Standards: 1  Governance, 3  Infection Control, 4  Medication Safety, 8  Acute Deterioration		

Printed or personally saved electronic copies of this document are considered uncontrolled.

Access the current version from the WNHS website.

For any enquiries relating to this guideline, please email KEMH.PharmacyAdmin@health.wa.gov.au

© Department of Health Western Australia 2019