



MONOGRAPH

DOBUTAMINE

Scope (Staff):	Medical, Pharmacy, Nursing, Anaesthetic Technicians
Scope (Area):	Theatre, Emergency department, Paediatric Critical Care

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

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

! HIGH RISK MEDICINE !

QUICKLINKS

Dosage/Dosage Adjustments	Administration	Compatibility	Monitoring
---	--------------------------------	-------------------------------	----------------------------

DRUG CLASS

*Inotropic agent; vasodilator*¹

Dobutamine is a [High Risk Medicine](#).

INDICATIONS AND RESTRICTIONS

- Dobutamine is used to correct low cardiac output state resulting from cardiac surgery, septic shock, myocarditis/cardiomyopathy, congestive heart failure or other causes.²

CONTRAINDICATIONS^{1,3}

- Hypersensitivity to dobutamine or any component of the formulation.
- Idiopathic hypertrophic subaortic stenosis
- Phaeochromocytoma
- Mechanical obstruction affecting left ventricular filling or outflow, especially in the case of obstructive cardiomyopathy or constrictive pericarditis.

PRECAUTIONS ^{1,4,5,6}

- Acute heart failure.
- Acute myocardial infarction.
- Arrhythmias.
- Hypercapnia should be corrected before starting.
- Hypovolaemia should be corrected before starting.
- Hypoxia should be corrected before starting.
- Metabolic acidosis should be corrected before starting.
- Diabetes mellitus.
- Hyperthyroidism.
- Ischaemic heart disease.
- Occlusive vascular disease.
- Severe hypotension.
- Susceptibility to angle-closure glaucoma.
- Prolonged use may result in diminution of therapeutic effect (down-regulation of receptors).

FORMULATIONS²

Listed below are products available at PCH. Other formulations may be available, check with pharmacy if required:

- Dobutamine 250 mg/ 20 mL vial

Imprest location: [Formulary One](#)

DOSAGE & DOSAGE ADJUSTMENTS

Neonates: [Refer to Neonatal Medication Protocols](#)

Continuous Intravenous/Intraosseous Infusion:

4 weeks – 18 years: Initially 5 micrograms/ kg/ minute titrated according to response. Usual maximum 15 – 20 micrograms/ kg/ minute.⁷

Dosing in Obese or Overweight and Obese Children: Use ideal body weight.⁸

Renal impairment:

- Specific guidelines are not available⁹

Hepatic impairment:

- Specific guidelines are not available⁹

ADMINISTRATION

Dobutamine infusions are restricted for use in Emergency Department, Theatre and Critical Care under the direct supervision of a Consultant

- It may initially be necessary to administer dobutamine by a peripheral IV line or by [intraosseous infusion](#). In such cases, the site should be monitored for signs of extravasation. Changing to a Central Venous Access Device (CVAD) or Midline device should be done as soon as possible.⁶

Patient's Weight	Concentration	Notes
10 kg or less	30 mg in 30 mL (1 mg/mL)	In a 3 kg patient 5 microg/kg/min = 0.9 mL/hour
Above 10 kg	250 mg in 50 mL (5 mg/mL)	In a 20 kg patient 5 microg/kg/min = 1.2 mL/hour

COMPATIBILITY (LIST IS NOT EXHAUSTIVE)^{6,8}

Compatible fluids: Glucose 5% (preferred), glucose 10%, sodium chloride 0.9%, glucose in sodium chloride solutions, glucose 5% in Hartmann's, Hartmann's, sodium chloride 0.45%,

- Plasma-Lyte 148 via Y-site.

Compatible at Y-site: *Giving other drugs via Y-site may change the infusion rate of dobutamine. A dedicated line is preferred.*

Only commonly used drugs are listed below. This is not a complete list of incompatible drugs. [Compatibilities of IV drugs](#) must be checked when two or more drugs are given concurrently.

Incompatible Fluids: Sodium bicarbonate, alkaline solutions, solutions that contain sodium bisulfite.

Incompatible Drugs: Aciclovir, alteplase, benzylpenicillin, cefazolin, cefotaxime, ceftriaxone, dexamethasone, flucloxacillin, foscarnet, ganciclovir, hydrocortisone sodium succinate, meropenem, micafungin, phenobarbital, piperacillin-tazobactam, sodium bicarbonate, sugammadex, thiopental sodium.

MONITORING^{3,7,8}

- Continuous cardiac monitoring: Blood pressure, ECG, heart rate, central venous pressure, mean arterial pressure, and urine output.
- If pulmonary artery catheter is in place, monitor cardiac index, pulmonary capillary wedge pressure, right atrial pressure, and systemic vascular resistance.

- Extravasation of dobutamine may cause local ischaemia and necrosis. Monitor the insertion site. Management of extravasation is described [here](#).

ADVERSE EFFECTS

Common: tachycardia, excessive increase in BP, ventricular ectopic activity¹

Infrequent: nausea, headache, angina, palpitations, ventricular tachycardia or fibrillation, hypotension, shortness of breath, bronchospasm, rash, fever, eosinophilia, urinary urgency, phlebitis and local inflammatory changes following extravasation¹

Rare: allergic reaction (sodium metabisulfite in products)¹

STORAGE⁸

Vial: Store below 25 °C. Protect from light.

Infusion solution: Stable for 24 hours below 25 °C. Solution may be pink.

INTERACTIONS

This medication may interact with other medications; consult PCH approved references (e.g. [Clinical Pharmacology](#)), a clinical pharmacist or PCH Medicines Information Service on extension 63546 for more information.

Please note: The information contained in this guideline is to assist with the preparation and administration of **dobutamine**. Any variations to the doses recommended should be clarified with the prescriber prior to administration

Related CAHS internal policies, procedures and guidelines

[Drug Dosing in Overweight and Obese Children 2 to 18 Years of Age](#)

[High Risk Medicines \(health.wa.gov.au\)](http://health.wa.gov.au)

[Intraosseous access \(health.wa.gov.au\)](http://health.wa.gov.au)



References

- Australian Medicines Handbook (AMH) [Internet] [cited July 2024] [Dobutamine - Australian Medicines Handbook \(health.wa.gov.au\)](#)
- Formulary ONE [Internet] [cited July 2024] [Paediatric - WA Statewide Medicines Formulary \(health.wa.gov.au\)](#)
- MIMS Online [Internet] [cited July 2024] [MIMS | MIMS | Full Product Information \(health.wa.gov.au\)](#)

References

4. Martindale: The Complete Drug Reference [Internet] [cited July 2024] [MedicinesComplete — Search for dobutamine \(health.wa.gov.au\)](https://www.medicinescomplete.com/search?q=dobutamine)
5. British National Formulary for Children (BNF) [Internet] [cited 2024] [MedicinesComplete — CONTENT > BNF for Children > Drug: Dobutamine \(health.wa.gov.au\)](https://www.medicinescomplete.com/content/bnf-for-children/drug/dobutamine)
6. Clinical Pharmacology [Dobutamine Contraindications/Precautions - Clinical Pharmacology \(health.wa.gov.au\)](https://www.health.wa.gov.au/clinical-pharmacology/dobutamine-contraindications-precautions)
7. Australian Medicines Handbook Children's Dosing Companion (AMH-CDC) [Internet] [cited July 2024] [Dobutamine - AMH Children's Dosing Companion \(health.wa.gov.au\)](https://www.health.wa.gov.au/dobutamine-amh-childrens-dosing-companion)
8. Australian Injectable Drugs Handbook, 9th Edition [Internet] [cited July 2024] [AIDH - DOBUTAMINE \(health.wa.gov.au\)](https://www.health.wa.gov.au/aidh-dobutamine)
9. UpToDate [Internet] [cited July 2024] [Dobutamine: Pediatric drug information - UpToDate \(health.wa.gov.au\)](https://www.health.wa.gov.au/upToDate-dobutamine)

This document can be made available in alternative formats on request for a person with a disability.

File Path:	W:\Safety & Quality\CAHS\CLOVERS MEDICAL Pharmacy\Procedures Protocols and Guidelines\Medication Monographs_Word\PCH.MED.Dobutamine.docx		
Document Owner:	Chief Pharmacist		
Reviewer / Team:	Senior Pharmacist, PCC Consultant, PCC Nurse Educator		
Date First Issued:	Aug 2014	Last Reviewed:	Nov 2024
Amendment Dates:	Oct 2020, Jul 2021	Next Review Date:	Nov 2027
Approved by:	Medication Safety Committee	Date:	Nov 2024
Endorsed by:	Drugs and Therapeutics Committee	Date:	Dec 2024
Standards Applicable:	NSQHS Standards:   NSMHS: N/A Child Safe Standards: N/A		

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



Healthy kids, healthy communities

Compassion

Excellence

Collaboration

Accountability

Equity

Respect

Neonatology | Community Health | Mental Health | Perth Children's Hospital