



MONOGRAPH

Phenylephrine (Parenteral)

Scope (Staff):	Medical, Pharmacy, Nursing, Anaesthetic Technicians
Scope (Area):	Critical Care Areas, Theatre

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](#)

QUICKLINKS

[Dosage & Administration](#)

[Compatibility](#)

[Monitoring](#)

DRUG CLASS

Phenylephrine is a synthetic sympathomimetic with selectivity for alpha-1 adrenergic receptor. It is a vasopressor that lacks significant inotropic and chronotropic effects.¹

INDICATIONS AND RESTRICTIONS

- Hypotension due to shock, spinal anaesthesia or drugs.^{1, 2}
- Severe hypercyanotic episodes in Tetralogy of Fallot (Tet spells).³
- **Restricted for use in critical care areas and theatre only.**

CONTRAINDICATIONS ⁴

- Hypersensitivity to phenylephrine, sodium metabisulfite or any component of the formulation.
- Severe hypertension.
- Ventricular tachycardia.

PRECAUTIONS ^{1, 4, 5}

- Use with caution in patients with pre-existing bradycardia, partial heart block, myocardial disease, severe coronary artery disease.
- Patients with heart failure, cardiogenic shock – increased systemic vascular resistance may reduce cardiac output.

- Patients with hypertension – monitor blood pressure closely and adjust infusion rate to effect.
- Patients with extensive peripheral vascular disease – may cause excessive peripheral and visceral vasoconstriction and ischemia to vital organs.
- Patients with autonomic dysfunction (e.g. spinal cord injury) – may exhibit an exaggerated increase in blood pressure.
- Patients with hyperthyroidism – may be more sensitive to phenylephrine leading to thyrotoxicity or cardiotoxicity.
- Acidosis – possible reduction in phenylephrine efficacy. Consider correcting acidosis before or during use of phenylephrine.
- Extravasation can cause necrosis and tissue sloughing.

FORMULATIONS

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

- Phenylephrine 10 mg/mL ampoules.

Imprest location: [Formulary One](#)

DOSAGE, ADMINISTRATION & DOSAGE ADJUSTMENTS

Hypotension (4 weeks to 18 years):

- Intravenous injection:^{1, 5}
 - 5 – 20 microg/kg/dose every 10 – 15 minutes as needed. Maximum initial dose 500 microg/dose.
 - Dilute to a maximum concentration of 1 mg/mL. Inject slowly over 3 – 5 minutes into a large vein or central line.^{4, 6}
 - In emergency situations, can be administered undiluted as a push injection⁶
- Intramuscular or subcutaneous injection:^{1, 5}
 - 0.1 mg/kg/dose every 1 – 2 hours as needed. Maximum 5 mg/dose.
 - Give injection undiluted (10 mg/mL).⁶

- Continuous intravenous infusion:^{1, 5}

Dilution:

All patients	5 mg in <u>50 mL</u> (100 micrograms/mL)
Fluid restricted only	10 mg in 50 mL (200 micrograms/mL) <i>Consider for fluid restricted patients requiring high doses.</i>

- Dose: Initially 0.1 – 0.5 microg/kg/minute, then titrate dose to response. Usual maximum infusion rate of 5 microg/kg/minute.
- Administer via central line where possible.⁶
- Diluted solution is stable for 24 hours.⁷

Severe hypercyanotic episodes in Tetralogy of Fallot (Tet spells):³

- Dose as for hypotension.
- Intravenous injection, followed by continuous intravenous infusion.

Renal impairment:

- [eGFR calculator](#)
- Patients with end-stage renal disease may experience increase response, start at a lower dose and adjust to target blood pressure.^{1, 5}

Hepatic impairment:

- May experience decreased response, start at recommended dose and adjust dose to target blood pressure.¹

COMPATIBILITY (LIST IS NOT EXHAUSTIVE)

Compatible fluids: Glucose 5%, sodium chloride 0.9%, glucose 10%, glucose in sodium chloride solutions, Hartmann's, Ringer's, sodium chloride 0.45%⁷

Compatible at Y-site: amiodarone, atracurium, calcium chloride, caspofungin, dexmedetomidine, heparin sodium, hydrocortisone sodium succinate, micafungin, noradrenaline (norepinephrine), remifentanyl.⁷

****Giving other drugs at Y-site may alter the infusion rate of phenylephrine****

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 drugs: aciclovir, azathioprine, furosemide, insulin (Actrapid), pentamidine, thiopental sodium. ⁷
MONITORING
<ul style="list-style-type: none"> Continuous cardiac monitoring during IV infusion.^{6,7}
ADVERSE EFFECTS^{1, 2}
<p>Common: Hypertension, CNS stimulation, nausea, vomiting, epigastric pain, nervousness, excitability, restlessness, dizziness, insomnia, tremor, headache, paraesthesia.</p> <p>Infrequent: Tachycardia, palpitations, reflex bradycardia.</p> <p>Rare: Hallucinations, seizures, arrhythmias, injection site reactions.</p>
STORAGE
Ampoule: Store below 25°C. Protect from light. ⁴
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 **phenylephrine (parenteral)**. Any variations to the doses recommended should be clarified with the prescriber prior to administration

References
1. Clinical Pharmacology - Phenylephrine. Tampa. FL: Gold Standard, Inc.; 2024 [cited 07/10/2024]. Available from: https://www-clinicalkey-com.pklibresources.health.wa.gov.au/pharmacology/monograph/482?type=1 .
2. Australian Medicines Handbook. Adelaide, South Australia; 2024 [cited 07/10/2024]. Available from: https://amhonline-amh-net-au.pklibresources.health.wa.gov.au/appendices/appendix-additional-drugs/specialised-drugs/phenylephrine-parenteral .
3. UpToDate - Tetralogy of Fallot (TOF): Management and Outcome. 2024 [cited 15/10/2024]. Available from: https://www-uptodate-com.pklibresources.health.wa.gov.au/contents/tetralogy-of-fallot-tof-management-and-outcome?search=hypercyanotic%20spell&source=search_result&selectedTitle=1%7E4&usage_type=default&display_rank=1#H11096360 .
4. MIMS Online. St Leonards, N.S.W: MIMS Australia Pty Ltd; 2024 [cited 07/10/2024]; 000042127464. Available from: https://www-mimsonline-com-au.pklibresources.health.wa.gov.au/Search/FullPI.aspx?ModuleName=Product%20Info&searchKeyword=phenylephrine&PreviousPage=~/Search/QuickSearch.aspx&SearchType=&ID=35330001_2 .
5. UpToDate - Phenylephrine (systemic): Pediatric drug information. Lexicomp; 2024 [cited 07/10/2024]. Available from: https://www-uptodate-com.pklibresources.health.wa.gov.au/contents/phenylephrine-systemic-pediatric-drug-information?search=phenylephrine&source=panel_search_result&selectedTitle=2%7E150&usage_type=panel&showDrugLabel=true&display_rank=2#F9504784 .

6. Melbourne RCH. Paediatric Injectable Guidelines Online - Phenylephrine. 2024 [cited 07/10/2024]. Available from: <https://pig-rch-org-au.pklibresources.health.wa.gov.au/monographs/phenylephrine/>.
7. SHPA. Australian Injectable Drugs Handbook - Phenylephrine. Health Communication Network; 2024 [cited 07/10/2024]. Available from: <https://aidh-hcn-com-au.pklibresources.health.wa.gov.au/browse/p/phenylephrine>.

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.Phenylephrine.docx		
Document Owner:	Chief Pharmacist		
Reviewer / Team:	PCC HoD, PCC CNS, Consultant Anaesthetist, Senior Pharmacists		
Date First Issued:	Nov 2025	Last Reviewed:	NEW
Amendment Dates:		Next Review Date:	Oct 2028
Approved by:	PCHN Medication Safety Committee	Date:	Oct 2025
Endorsed by:	CAHS Drug and Therapeutics Committee	Date:	Nov 2025
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