AUSTRALIAN PRODUCT INFORMATION

Phenylephrine BNM
phenylephrine hydrochloride 0.1 mg/mL (0.01 %)
Solution for injection

1 NAME OF THE MEDICINE

phenylephrine hydrochloride

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 1 mL solution of phenylephrine hydrochloride injection 0.1 mg/mL (0.01 %) contains 0.1 mg phenylephrine hydrochloride.

Each 5 mL ampoule contains 0.5 mg phenylephrine hydrochloride as well as 45 mg sodium chloride (equivalent to 17.7 mg sodium).

For the full list of excipients, see Section 6.1 List of excipients.

The solution is preservative free and sulfite free.

3 PHARMACEUTICAL FORM

Phenylephrine BNM is a clear, colourless, aqueous solution, free from visible particulates, in sterile form for parenteral injection. pH 3.0 - 5.0; Osmolarity: 270 to 300 mOsm/L.

4 CLINICAL PARTICULARS

4.1 THERAPEUTIC INDICATIONS

Phenylephrine hydrochloride is intended for the maintenance of an adequate level of blood pressure during spinal and inhalation anaesthesia. It is also employed to overcome paroxysmal supraventricular tachycardia.

4.2 DOSE AND METHOD OF ADMINISTRATION

Phenylephrine BNM solution for injection 0.1 mg/mL (0.01 %) is for slow intravenous injection. Phenylephrine BNM is **NOT** for subcutaneous or intramuscular administration.

Phenylephrine BNM contains no antimicrobial preservative. It is for use in one patient on one occasion only. Discard any residue.

It should only be administered by healthcare professionals with appropriate training and relevant experience.

The dose should be adjusted according to the pressor response.

Mild or moderate hypotension:
Intravenously:
Usual dose, 0.2 mg. Range, from 0.1 mg to 0.5 mg. Initial dose should not exceed 0.5 mg.

Injections should not be repeated more often than every 10 to 15 minutes. A 0.5 mg intravenous dose should elevate blood pressure for about 15 minutes.

Spinal anaesthesia - hypotension:
Phenylephrine BNM solution for injection 0.1 mg/mL (0.01 %) is **NOT** for subcutaneous or intramuscular administration. If subcutaneous or intramuscular phenylephrine treatment of hypotension during spinal anaesthesia is desired, other brands of phenylephrine are available.

For hypotensive emergencies during spinal anaesthesia, phenylephrine hydrochloride may be injected intravenously, using an initial dose of 0.2 mg. Any subsequent dose should not exceed the previous dose by more than 0.1 mg to 0.2 mg and no more than 0.5 mg should be administered in a single dose.

Paroxysmal supraventricular tachycardia:
Rapid intravenous injection (within 20 to 30 seconds) is recommended; the initial dose should not exceed 0.5 mg, and subsequent doses, which are determined by the initial blood pressure response, should not exceed the preceding dose by more than 0.1 mg to 0.2 mg, and should never exceed 1 mg.

4.3 CONTRAINDICATIONS

Phenylephrine hydrochloride should not be used in patients with severe hypertension, ventricular tachycardia, or in patients who are hypersensitive to it.

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE

General:
Phenylephrine hydrochloride should be employed only with extreme caution in patients with hyperthyroidism, bradycardia, partial heart block, myocardial disease, or severe arteriosclerosis.

Use in labour and delivery:
If used in conjunction with oxytocic medicines, the pressor effect of sympathomimetic pressor amines is potentiated. Therefore, if vasopressor drugs are used to correct hypotension, the obstetrician should be cautioned that some oxytocic drugs may cause severe persistent hypertension and that even a rupture of a cerebral blood vessel may occur during the postpartum period.

Use in the elderly
Phenylephrine hydrochloride should be employed only with extreme caution in elderly patients.

Paediatric use
The safety and efficacy of Phenylephrine BNM solution for injection 0.1 mg/mL (0.01 %) in children have not been established. No data are available.

Effects on laboratory tests
No data available.

4.5 INTERACTIONS WITH OTHER MEDICINES AND OTHER FORMS OF INTERACTIONS

Vasopressors, particularly metaraminol, may cause serious cardiac arrhythmias during halothane anaesthesia and therefore should be used only with great caution or not at all.

Oxytocic medicines: The pressor effect of sympathomimetic pressor amines is potentiated (see Section 4.4 Special warnings and precautions for use).

MAO inhibitors: The pressor effect of sympathomimetic pressor amines is markedly potentiated in patients receiving monoamine oxidase inhibitors (MAOI). Therefore, when initiating pressor therapy in these patients, the initial dose should be small and used with due caution. The pressor response of adrenergic agents may also be potentiated by tricyclic antidepressants.

4.6 FERTILITY, PREGNANCY AND LACTATION

Effects on fertility
No data available.

Use in pregnancy
Category B2
Animal reproduction studies have not been conducted with phenylephrine hydrochloride. It is also not known whether phenylephrine hydrochloride can cause foetal harm when administered to a pregnant woman or can affect reproduction capacity. Data from animal studies show administration of phenylephrine during late pregnancy or labour may cause foetal hypoxia and bradycardia by increasing contractility of the uterus and decreasing uterine blood flow.

From human data, phenylephrine, when administered during labour or delivery, does not appear to influence Apgar scores. Phenylephrine hydrochloride should be given to a pregnant woman only if clearly needed.

Studies in animals are inadequate or may be lacking, but available data show no evidence of an increased occurrence of foetal damage.

Use in lactation
It is not known whether this medicine is excreted in human milk. Because many medicines are excreted in human milk, caution should be exercised when phenylephrine hydrochloride is administered to a nursing woman.

4.7 EFFECTS ON ABILITY TO DRIVE AND USE MACHINES

The effects of this medicine on a person's ability to drive and use machines were not assessed as part of its registration.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS)

Headache, reflex bradycardia, excitability, restlessness, and rarely arrhythmias.

Reporting suspected adverse effects
Reporting suspected adverse reactions after registration of the medicinal product is important. It allows continued monitoring of the benefit-risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions at http://www.tga.gov.au/reporting-problems.

4.9 OVERDOSE

Overdosage may induce ventricular extrasystoles and short paroxysms of ventricular tachycardia, a sensation of fullness in the head and tingling of the extremities. Should an excessive elevation of blood pressure occur, it may be immediately relieved by an α-adrenergic blocking agent, e.g. phentolamine.

The oral LD_{50} in the rat is 350 mg/kg, in the mouse 120 mg/kg.

For information on the management of overdose, contact the Poisons Information Centre on 13 11 26 (Australia).

5 PHARMACOLOGICAL PROPERTIES

5.1 PHARMACODYNAMIC PROPERTIES

Mechanism of action
Phenylephrine hydrochloride is a synthetic sympathomimetic agent.

Phenylephrine hydrochloride produces vasoconstriction that lasts longer than that of adrenaline and ephedrine. Responses are more sustained than those to adrenaline, lasting 20 minutes after intravenous and as long as 50 minutes after subcutaneous injection. Its action on the heart contrasts sharply with that of adrenaline and ephedrine, in that it slows the heart rate and increases the stroke output producing no disturbance in the rhythm of the pulse.

Phenylephrine hydrochloride is a powerful postsynaptic alpha-receptor stimulant with little effect on the beta-receptors of the heart. In therapeutic doses, it produces little if any

stimulation of either the spinal cord or cerebrum. A singular advantage of this drug is the fact that repeated injections produce comparable effects.

The predominant actions of phenylephrine hydrochloride are on the cardiovascular system. Parenteral administration causes a rise in systolic and diastolic pressures in man and other species. Accompanying the pressor response to phenylephrine hydrochloride is a marked reflex bradycardia that can be blocked by atropine; after atropine, large doses of phenylephrine hydrochloride increase the heart rate only slightly. In man, cardiac output is slightly decreased, and peripheral resistance is considerably increased. Circulation time is slightly prolonged, and venous pressure is slightly increased; venous constriction is not marked. Most vascular beds are constricted; renal splanchnic, cutaneous, and limb blood flows are reduced but coronary blood flow is increased. Pulmonary vessels are constricted, and pulmonary arterial pressure is raised.

The drug is a powerful vasoconstrictor, with properties very similar to those of norepinephrine but almost completely lacking the chronotropic and inotropic actions on the heart. Cardiac irregularities are seen only very rarely even with large doses.

Clinical trials
No data available.

5.2 PHARMACOKINETIC PROPERTIES

No data available.

5.3 PRECLINICAL SAFETY DATA

Genotoxicity
No long-term animal studies have been performed to evaluate the potential of phenylephrine hydrochloride in this area.

Carcinogenicity
No long-term animal studies have been performed to evaluate the potential of phenylephrine hydrochloride in this area.

6 PHARMACEUTICAL PARTICULARS

6.1 LIST OF EXCIPIENTS

Phenylephrine BNM contains sodium chloride, hydrochloric acid and water for injections.

6.2 INCOMPATIBILITIES

Incompatibilities were either not assessed or not identified as part of the registration of this medicine.

6.3 SHELF LIFE

In Australia, information on the shelf life can be found on the public summary of the Australian Register of Therapeutic Goods (ARTG). The expiry date can be found on the packaging.

6.4 SPECIAL PRECAUTIONS FOR STORAGE

Store below 25°C.
Protect from light.

6.5 NATURE AND CONTENTS OF CONTAINER

Phenylephrine BNM solution for injection 0.1 mg/mL (0.01 %) is available in 5 mL glass ampoules. It is supplied in packs of 10 ampoules per carton.

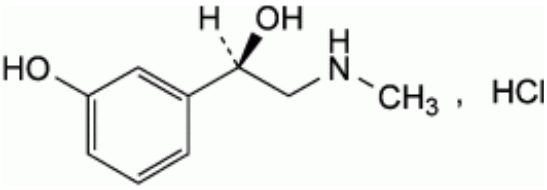
Each 5 mL ampoule contains 0.5 mg phenylephrine hydrochloride.

6.6 SPECIAL PRECAUTIONS FOR DISPOSAL

In Australia, any unused medicine or waste material should be disposed of in accordance with local requirements.

6.7 PHYSICOCHEMICAL PROPERTIES

Chemical structure
The chemical structure for phenylephrine hydrochloride is shown below:



Chemically, phenylephrine hydrochloride is (-)-m-Hydroxy-a-[(methylamino) methyl] benzyl alcohol hydrochloride. It is a white or almost white, crystalline powder, freely soluble in water and in alcohol.

Molecular formula: $C_9H_{13}NO_2$• HCl
Molecular weight: 203.7

CAS number
61-76-7

7 MEDICINE SCHEDULE (POISONS STANDARD)

Schedule 4 - Prescription Only Medicine

8 SPONSOR

Boucher & Muir Pty Ltd
Level 9, 76 Berry Street
North Sydney NSW 2060

Ph: 1800 627 680

9 DATE OF FIRST APPROVAL

4 October 2018

10 DATE OF REVISION

21 May 2019

SUMMARY TABLE OF CHANGES

Section changed	Summary of new information
6.3	Change the product shelf life from 2 years to a standard statement.