AUSTRALIAN PRODUCT INFORMATION – MINIMS® CYCLOPENTOLATE HYDROCHLORIDE (CYCLOPENTOLATE HYDROCHLORIDE) EYE DROPS

1 NAME OF THE MEDICINE

Cyclopentolate hydrochloride

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Minims Cyclopentolate Eye Drops are sterile preservative-free solutions containing cyclopentolate hydrochloride 0.5% (5 mg/mL) or 1% w/v (10 mg/mL) as the active ingredient.

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

3 PHARMACEUTICAL FORM

Eye drops, solution.

Minims Cyclopentolate Eye Drops are clear colourless solutions, reasonably free from visible particulate matter.

4 CLINICAL PARTICULARS

4.1 THERAPEUTIC INDICATIONS

Minims Cyclopentolate Eye Drops are indicated to produce mydriasis and cycloplegia.

4.2 DOSE AND METHOD OF ADMINISTRATION

Adults (including the elderly)

Minims Cyclopentolate Eye Drops should be instilled drop wise into the eye according to the recommended dosage below.

One drop as required. Maximum effect is induced 30 – 60 minutes after instillation. For refraction and examination of the back of the eye: 1 drop of solution, which may be repeated after five minutes, is usually sufficient.

For anterior and posterior uveitis (if associated with signs of anterior uveitis) and for the breakdown of posterior synechiae: 1 drop is instilled every 6 – 8 hours.

Resistance to cycloplegia can occur in young children, in patients with dark skin and/or patients with dark irides. Therefore, if the 0.5% solution does not induce cycloplegia, the dosage regimen (children) and/or the strength of cyclopentolate used should be increased accordingly.

Children

<3 months:	not recommended
3 months – 12 years:	1 drop of a 0.5% solution to each eye
12 years – adult:	1 drop of 0.5% or 1% solution to each eye repeated after 10 minutes if necessary

Children should be observed for 45 minutes after installation.

Parents are advised to avoid contact of the solution with the child's mouth and to wash their hands and the child's hands after administering the drops.

Systemic absorption of cyclopentolate may be reduced by compressing the lacrimal sac at the medial canthus for a minute during and following the instillation of the drops. (This blocks the passage of the drops via the naso-lacrimal duct to the wide absorptive area of the nasal and pharyngeal mucosa. It is especially advisable in children.)

Each Minims Cyclopentolate Eye Drops unit should be discarded after a single use.

4.3 CONTRAINDICATIONS

Minims Cyclopentolate Eye Drops are contraindicated in patients with hypersensitivity to any of the components of the preparation.

Do not use in patients with narrow-angle glaucoma or in those with a shallow anterior chamber (see Section 4.4 Special Warnings and Precautions for Use).

Do not use in elderly (>65 years) patients and other patients who may be predisposed to an increased intraocular pressure.

Do not use in at risk patients, especially premature babies, small infants, adults over 65 years old and patients with Down's syndrome, as well as in children with brain damage (see Section 4.4 Special Warnings and Precautions for Use).

Do not use in children with organic brain syndromes, including congenital or neuro-developmental abnormalities, particularly those predisposing to epileptic seizures.

Do not use in patients with cardiovascular disorders.

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE

Minims Cyclopentolate Eye Drops are for topical ophthalmic use only. The solution should not be injected.

Complete recovery of accommodation usually occurs within 24 hours, however in some individuals complete recovery may require several days.

Eyes may become sensitive to light while using Minims Cyclopentolate Eye Drops. Patients should be advised to protect their eyes e.g. by wearing sunglasses.

Cyclopentolate may cause CNS disturbances when administered topically to the eye. This is especially true in younger age groups and other patients at special risk, such as debilitated or aged patients, but may occur at any age.

Caution is advised in case of open-angle glaucoma, epilepsy, in patients with prostate disorders, ataxia, and in case of senile dementia.

Because of the risk of precipitating angle-closure glaucoma in the elderly and others prone to raised intraocular pressure, an estimate of the depth of the anterior chamber should be made before use, particularly if therapy is likely to be intense or protracted (see Section 4.3 Contraindications).

Tachycardia and cardiac symptoms are sometimes observed, therefore the product should not be used in patients with cardiovascular disease (see Section 4.3 Contraindications).

Caution is also advised in hyperaemia as increased systemic absorption may occur.

Cyclopentolate should only be used with special care for in patients with rhinitis sicca, mechanical stenosis of the gastrointestinal tract, toxic megacolon, myasthenia gravis, and obstructive urinary tract disorders.

Resistance to cycloplegia can occur in young children, in patients with dark irides, see Section 4.2 Dose and Method of Administration.

Extreme caution is advised for use in individuals susceptible to belladonna alkaloids because of the increased risk of systemic toxicity. Atropine-like effects have been reported as side effects.

Use in the elderly

Minims Cyclopentolate Eye Drops should be used with caution in elderly patients where increased intraocular pressure may be encountered and/or where they may be more susceptible to the CNS effects of cyclopentolate, see Section 4.3 Contraindications.

Paediatric use

Minims Cyclopentolate Eye Drops should be used with caution in very young children. Increased susceptibility to cyclopentolate has been reported in infants, young children and in children with spastic paralysis or brain damage. Cyclopentolate should not, therefore, be used in premature and small infants (see Section 4.3 Contraindications), and should be used with great caution in young children.

Use of cyclopentolate has been associated with psychotic reactions, and behavioural disturbances in paediatric patients. Increased susceptibility to cyclopentolate has been reported in infants, young children and in children with brain damage (see Section 4.8 Adverse Effect (Undisarable Effects)).

Feeding intolerance may follow ophthalmic use of this product in infants. It is recommended that feeding be withheld for four (4) hours after examination. Observe infants closely for at least 45 minutes after administration of this medicine.

Cyclopentolate should be used with caution in children as convulsions including grand mal have been reported.

Necrotic colitis in premature children
Particular caution should be used when used in children because cases of necrotic colitis have been reported following administration of cyclopentolate eye drops in premature babies (see Section 4.8 Adverse Effects (Undesirable effects)). In such a case, immediate medical evaluation is needed.

Effects on laboratory tests

No data available

4.5 INTERACTIONS WITH OTHER MEDICINES AND OTHER FORMS OF INTERACTIONS

Although negligible Cyclopentolate passes into the bloodstream after ocular instillation, drug interactions are nevertheless possible. The anticholinergic effects of other pharmaceuticals (e.g. antihistamines, phenothiazines, tricyclic and tetracyclic antidepressants, amantadine, quinidine, disopyramide, metoclopramide) could be increased.

The interactions observed with Cyclopentolate administered by any route should therefore be taken into account.

Cyclopentolate may interfere with the antiglaucoma action of carbachol or pilocarpine; also, concurrent use of this medication may antagonise the antiglaucoma and miotic action of ophthalmic cholinesterase inhibitors.

The mydriatic effect of cyclopentolate hydrochloride is ended by the use of parasympathomimetic drugs such as physostigmine or pilocarpine.

4.6 FERTILITY, PREGNANCY AND LACTATION

Effects on fertility

No studies have been performed to evaluate the potential fertility impairing effects of cyclopentolate.

Use in pregnancy – Pregnancy Category – B2

Safety for use in pregnancy has not been established, therefore, Minims Cyclopentolate Eye Drops should be used only when considered essential.

Use in lactation

It is not known whether cyclopentolate and/or its metabolites are excreted in milk. Safety for use in lactation has not been established, therefore, Minims Cyclopentolate Eye Drops should be used only when considered essential.

4.7 EFFECTS ON ABILITY TO DRIVE AND USE MACHINES

Cyclopentolate has a marked effect on the ability to drive and use machines. Minims Cyclopentolate Eye Drops may cause transient blurring of vision on instillation (see Section 4.8 Adverse Effects (Undesirable effects)). Patients should be advised not to drive or operate hazardous machinery until vision is clear.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS)

Local Effects

Local irritation may result following the use of this product. The frequency of this effect occurring is dependent on the concentration instilled.

Allergic conjunctivitis or blepharoconjunctivitis may rarely occur, manifesting as diffusely red eyes with lacrimation and itching.

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Increased intraocular pressure may occur in predisposed patients.

Other local effects include: burning, photophobia, blurred vision, irritation, hyperaemia and punctate keratitis.

Systemic Effects

Systemic cyclopentolate toxicity may be dose-related. Systemic adverse effects from cyclopentolate are not uncommon, especially in children, although this information is based on post-marketing reports for which frequencies are not accurately known.

Toxicity is usually transient and is manifested mainly by CNS disturbances. These reactions may include ataxia, convulsion, somnolence, incoherent speech, restlessness, hallucinations, hyperactivity, seizures, disorientation with regard to time and place, and failure to recognise people.

Peripheral effects typical of anti-cholinergics, such as flushing or dryness of the skin and mucous membranes, as well as temperature changes have been also observed rarely with topical cyclopentolate in children and adults.

Other systemic effects include anaphylactic reaction and anaphylactic shock, gastrointestinal effects such as necrotising colitis, gastroenteritis and feeding intolerance in infants; skin rash; dry mouth; urinary retention; vertigo; incoordination; poor balance and tremor.

Tachycardia has also been observed.

Post Marketing Experience

Adverse reactions are listed by system organ class and frequency. The following convention has been used for the classification of frequencies: very common (≥1/10); common (≥1/100 to <1/10); uncommon (≥1/1,000 to <1/100); rare (≥1/10,000 to <1/1,000); very rare (<1/10,000); not known (cannot be estimated from the available data).

System organ class	Adverse reaction(s)	Frequency
Immune system disorders	Anaphylactic reaction107	Not known
	Anaphylactic shock107	Not known
	Hypersensitivity*	Not known
Infections and infestations	Conjunctivitis	Not known
Psychiatric disorders	Agitation	Not known
	Behaviour disorder	Not known
	Confusional state	Not known
	Disorientation	Not known
	Hallucination	Not known
	Psychotic disorder	Not known
	Restlessness	Not known
Nervous system disorders	Ataxia	Not known
	Balance disorder	Not known
	Central nervous system disturbances	Not known
	Cerebellar dysfunction	Not known
	Dizziness	Not known
	Dysarthria	Not known
	Incoherent (in children)	Not known
	Psychomotor hyperactivity	Not known
	Seizure	Not known
	Somnolence	Not known
Eye disorders	Accommodation disorder	Not known
	Angle closure glaucoma	Not known
	Eye irritation	Not known
	Eye pain	Not known
	Ocular hyperaemia	Not known
	Vision blurred	Not known
	Visual impairment	Not known
Cardiac disorders	Arrhythmia	Not known
	Bradycardia	Not known
	Cardiopulmonary failure	Not known
	Palpitations	Not known
	Tachycardia	Not known
Vascular disorders	Flushing	Not known
Gastrointestinal disorders	Abdominal distension (in infants)	Not known
	Constipation	Not known
	Dry mouth	Not known
	Gastrointestinal hypomotility	Not known
	Nausea	Not known
	Necrotising colitis	Not known
	Vomiting	Not known

Skin and subcutaneous tissue disorders	Dry skin Erythema Rash	Not known Not known Not known
Renal and urinary disorders	Urinary retention	Not known
General disorders and administration site conditions	Mucosal dryness Pyrexia	Not known Not known
Investigations	Intraocular pressure increased	Not known

* Both local and systemic hypersensitivity reactions were reported.

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 www.tga.gov.au/reporting-problems.

4.9 OVERDOSE

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

Overdose is rare but symptoms can include those mentioned under Section 4.8 Adverse Effects (Undesirable Effects) above.

In isolated cases, ocular topical application of eye drops containing cyclopentolate can lead to central nervous system disorders and general systemic manifestations, especially in children with central nervous system disorders.

a) Central nervous manifestations: restlessness, incoherent speech, optical hallucinations, memory loss, disorientation, ataxia, very rarely epileptiform seizures, exhaustion, sleep.

b) General systemic manifestations: dry mouth, flushing of the face, tachycardia, increase in temperature, urinary blockage, pupil dilation, loss of accommodation.

Treatment is supportive, and as required to control symptoms of anticholinergic overdose. Physostigmine or pilocarpine can be administered as an antidote. Specific therapies may be required e.g. Benzodiazepines for seizures.

5 PHARMACOLOGICAL PROPERTIES

5.1 PHARMACODYNAMIC PROPERTIES

Mechanism of action

Cyclopentolate hydrochloride is a synthetic tertiary amine, antimuscarinic compound with actions similar to atropine.

It blocks the responses of the sphincter muscle of the iris and the accommodative muscle of the ciliary body to cholinergic stimulation, producing pupillary dilatation (mydriasis) and paralysis of accommodation (cycloplegia). It acts more quickly than atropine and has a shorter duration of action; the maximum effect is produced 30 to 60 minutes after instillation; accommodation recovers within 24 hours.

Clinical trials

No data available

5.2 PHARMACOKINETIC PROPERTIES

Absorption

As a group, the synthetic tertiary amine antimuscarinic compounds are well absorbed following oral administration. Cyclopentolate may be absorbed systemically either by transcorneal absorption, direct topical absorption through the skin or by absorption from the nasal or naso lacrimal system.

5.3 PRECLINICAL SAFETY DATA

Genotoxicity

No studies have been performed to evaluate the potential mutagenic and clastogenic effects of cyclopentolate.

Carcinogenicity

No studies have been performed to evaluate the potential carcinogenic effects of cyclopentolate.

6 PHARMACEUTICAL PARTICULARS

6.1 LIST OF EXCIPIENTS

Purified water, hydrochloric acid.

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 at 2°C to 8°C. Refrigerate. Do not freeze. Protect from light.

6.5 NATURE AND CONTENTS OF CONTAINER

Minims Cyclopentolate Eye Drops are available in a single use polypropylene tube (unit) overwrapped in a polyester/paper blister. Pack size: cartons of 20 x 0.5 mL units.

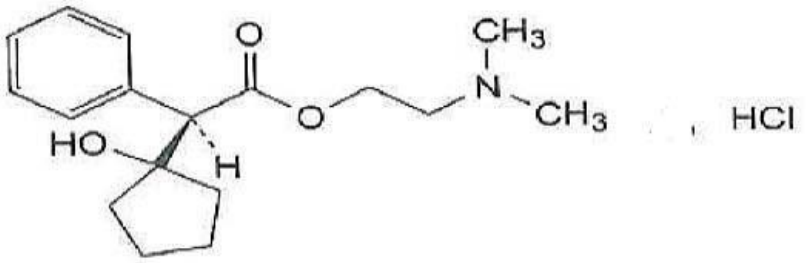
6.6 SPECIAL PRECAUTIONS FOR DISPOSAL

Each Minims Cyclopentolate Eye Drops unit should be discarded after a single use.

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

6.7 PHYSICOCHEMICAL PROPERTIES

Chemical structure



Chemical name: 2-(dimethylamino)ethyl(RS)-2-(1-hydroxycyclopentyl)-2-phenylacetate hydrochloride

Molecular formula: $C_{17}H_{25}NO_3.HCl$

Molecular weight: 327.9

Cyclopentolate is present as a racemic mixture.

CAS number

5870-29-1

7 MEDICINE SCHEDULE (POISONS STANDARD)

S4 – Prescription Only Medicine

8 SPONSOR

Bausch & Lomb (Australia) Pty Ltd
Level 2, 12 Help Street
Chatswood, NSW 2067

9 DATE OF FIRST APPROVAL

3 February 2009.

10 DATE OF REVISION

28 April 2021

SUMMARY TABLE OF CHANGES

Section Changed	Summary of new information
4.3-4.5	Sections updated with additional safety information as per latest the CCDS (version 2.0, date 8-dec-2020)
4.7-4.9	Sections updated with additional safety information as per the latest CCDS (version 2.0, date 8-dec-2020)
6.5	Editorial change