NEW ZEALAND DATA SHEET

SCOPOLAMINE TRANSDERMAL SYSTEM

1. Product Name

Scopolamine Transdermal System, 1.45 mg, transdermal patch.

2. Qualitative and Quantitative Composition

Each transdermal patch contains 1.45 mg of scopolamine base (Hyoscine).

Each transdermal patch releases approximately 1 mg of scopolamine over 3 days.

3. Pharmaceutical Form

A round opaque transdermal system (TDS) with a peach-coloured backing printed with “Scopolamine 1 mg/3 days” in brown ink on an oversized removable release liner and with a clear overlay. The TDS is contained in a square pouch with printed paper on both sides. The pouch is labelled with the lot number and expiration date.

4. Clinical Particulars

4.1 Therapeutic indications

Scopolamine Transdermal System is indicated to prevent symptoms of motion sickness, such as nausea, vomiting and vertigo.

4.2 Dose and method of administration

Dose

To obtain an optimum protective effect, a single scopolamine transdermal patch should be applied about 5 – 6 hours before embarking on a journey (or on the evening before the journey) to a clean, dry, hairless area of skin behind the ear. Application of one scopolamine transdermal patch is sufficient to ensure protection over a period of 72 hours; but if the patch is only needed for a shorter time, it should be removed at the end of the journey.

Should more prolonged protection be required, the scopolamine transdermal patch must be removed after 72 hours and a fresh patch applied behind the other ear (no more than one patch should be used at a time).

If the scopolamine transdermal patch becomes accidentally detached, it should be replaced by a fresh patch if ongoing treatment is needed.

To prevent traces of active substance from entering the eyes the patient should always wash the hands after contact with the patch and wash the site of application after its removal (see section 4.4). In addition, after removal of the system, the site of application should also be washed. These precautions are necessary to minimise any chance of scopolamine accidentally being transferred to the eyes (see section 4.8).

Limited contact with water (i.e. during bathing or swimming), should not affect the system, although it should be kept as dry as possible.

If the scopolamine patch, which normally adheres well to the skin, becomes accidentally detached, it should be replaced by a fresh system.

Special populations

Elderly

Scopolamine should be used with caution in the elderly, although the elderly may be more prone to suffer from the side effects of scopolamine (see section 4.4).

Hepatic and renal impairment

Scopolamine should only be used with caution in patients with impaired hepatic or renal function (see section 4.4).

Paediatric

Scopolamine can be used in children aged 10 years or above. Safety in children under 10 years has not been established and its use is not recommended.

Method of application

Select a hairless area of skin behind one of your ears. Avoid areas on your skin that may have cuts, pain or tenderness and wipe the area of your skin with a clean, dry tissue. Apply the adhesive surface of scopolamine TDS firmly to the dry area of skin behind your ear. Wear only one scopolamine TDS at any time.

4.3 Contraindications

Scopolamine is contraindicated in patients with hypersensitivity to scopolamine, or to any of the excipients listed in section 6.1; and in patients with glaucoma.

4.4 Special warnings and precautions for use

General

Scopolamine has anticholinergic effects (see section 5.1). Idiosyncratic reactions may occur with ordinary therapeutic doses.

Side effects may persist for 24 hours or longer after the patch has been removed (see section 5.2).

Do not apply more than one patch at a time.

Elderly

The elderly may be at increased risk of adverse reactions due to the anticholinergic effects of scopolamine (see section 4.8). Scopolamine should be used with caution in elderly patients.

Hepatic and renal impairment

Scopolamine should be used with caution in patients with metabolic disorders or with impaired hepatic or renal function as its use has not been studied in these populations.

Neuropsychiatric effects

Cases of confusion and/or visual hallucinations have occurred due to the anticholinergic effects of scopolamine. If this occurs, scopolamine transdermal patch should be removed immediately. If symptoms persist despite removal of the patch appropriate therapeutic measures should be taken. In severe cases, administration of physostigmine should be considered, e.g. 1 - 4mg (in children 0.5mg), by slow intravenous injection to be repeated if necessary.

Gastrointestinal and urinary disorders

Scopolamine can decrease gastrointestinal motility and cause urinary retention due to its anticholinergic effects. Scopolamine should be used with caution in patients with pyloric stenosis, intestinal obstruction, or urinary obstruction (e.g. in diseases of the prostate).

Raised intraocular pressure

Scopolamine can increase intra-ocular pressure due to its anticholinergic effects. In patients with suspected raised intra-ocular pressure (e.g. pressure pain, blurred vision, glaucomatous halo), scopolamine should only be used after an ophthalmological examination rules this out (see section 4.3).

Seizures

An increase in seizure frequency in epileptic patients has been reported. Scopolamine should be used with caution in patients with a history of seizures.

Blurred vision

After applying, removing, or handling the scopolamine transdermal patch, the hands (and application site if patch is removed) should be thoroughly washed. This is to prevent traces of active substance from entering the eyes, which might lead to temporary blurring of vision and dilatation of the pupils (sometimes in one eye only).

Medical scans

Due to presence of aluminium in one of the layers of the patch, it should be removed before medical scans.

Hyperthermia

Serious adverse reactions of hyperthermia have been reported post marketing in adult and paediatric patients receiving transdermal scopolamine, including fatal cases. Anticholinergic agents, including scopolamine, can increase core body temperature and reduce sweating, which may cause further increases in body temperature. Hyperthermia may be exacerbated by exposure to external heat sources or high environmental temperature. Paediatric and geriatric patients may be more susceptible to these anticholinergic effects on thermoregulation. Advise patients if body temperature increases, or they are not sweating in warm environmental conditions, to remove the transdermal system and contact their healthcare provider. Symptoms may persist following removal of the used transdermal system as there may be continued systemic absorption of scopolamine through the skin.

4.5 Interaction with other medicines and other forms of interaction

Scopolamine should be employed with caution in patients taking drugs which act on the central nervous system. This applies particularly to patients under treatment with drugs displaying anticholinergic activity, e.g. belladonna alkaloids, antihistamines, tricyclic antidepressants (such as amitriptyline and imipramine), amantadine, quinidine.

Patients should refrain from consuming alcohol during use of scopolamine.

4.6 Fertility, pregnancy and lactation

Pregnancy

There are no controlled studies on the potential effects of scopolamine in pregnant women. Non-clinical studies in mice and rats have revealed no adverse reproductive or development effects at doses comparable to the recommended clinical dose (see section 5.3).

Scopolamine readily crosses the placenta. Pregnant patients should talk to a healthcare professional before using scopolamine. Scopolamine should only be used during pregnancy if the expected benefits to the mother outweigh the potential risks to the foetus.

Breastfeeding

There are no controlled studies on the potential effects of scopolamine in lactating women. Scopolamine is excreted in human milk in traces amounts. Breastfeeding patients should talk to a healthcare professional before using scopolamine.

Fertility

There are no controlled studies on the potential effects of scopolamine on human fertility. Non-clinical studies in female rats revealed no evidence of impaired fertility (see section 5.3).

4.7 Effects on ability to drive and use machines

Scopolamine can cause drowsiness, dizziness, confusion, or visual disturbance in certain individuals, and in rare cases can also give rise to other side effects (see section 4.8), which may adversely affect the patient's reactions.

Patients using the transdermal patch must not drive, operate machinery, pilot an aircraft, dive, or engage in any other activities in which such symptoms could be dangerous (see section 4.8).

4.8 Undesirable effects

Adverse reactions are listed below by system organ class and frequency. Frequencies are defined as: 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), or not known (cannot to be estimated from available data). Within each frequency grouping, adverse reactions are presented in order of decreasing seriousness.

Table 1 List of Adverse Reactions

MedDRA SOC	Adverse Reaction	Frequency
Psychiatric disorders	Disorientation, confusion and hallucinations	Rare
Nervous system disorders	Somnolence, dizziness	Very common
	Memory impairment, disturbance in attention, restlessness, disorientation, confusion and visual hallucination (see section 4.4).	Rare
	Agitation	Not known
	Coordination Abnormalities	Not known
	Headache	Not known
Eye disorders	Disturbances of visual accommodation (cycloplegia) including blurred vision, myopia and mydriasis (sometimes unilateral).	Very common
	Eyelid irritation	Common
	Pupillary dilatation may precipitate acute glaucoma, particular narrow angle glaucoma (see section 4.3)	Very rare
Gastrointestinal disorders	Dryness of the mouth	Very common
General disorders and administration site conditions	Hyperthermia	Not known
Skin and subcutaneous tissue disorders	Skin irritation	Common
	Rash generalized	Very rare

	Application site reactions including rash, pruritus, erythema and burning	Not known
Renal and urinary disorders	Urinary retention	Rare

Adverse effects after withdrawal of scopolamine transdermal patch

After discontinuation of treatment, in rare cases usually after several days of use, symptoms such as dizziness, nausea, vomiting, headache, and disturbances of balance have been reported. In such cases, patients should not drive or engage in other activities requiring concentration (see section 4.4).

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare professionals are asked to report any suspected adverse reactions https://pophealth.my.site.com/carmreportnz/s/.

4.9 Overdose

Symptoms

Scopolamine overdose can result in anticholinergic toxicity. Signs and symptoms of overdose can include dry flushed skin, dry mouth, visual disturbance, tachycardia, supraventricular arrhythmias, decreased bowel sounds, urinary retention, hypertension, hyperthermia, lethargy, somnolence, agitation, confusion, and hallucinations. At very high doses seizures, coma, respiratory depression, and circulatory collapse can occur.

Treatment

Remove all patches immediately, as some overdose symptoms may persist for 24 hours or longer even after patch removal.

The most effective antidote is physostigmine, which, depending on the severity of the poisoning, should be injected slowly IV in doses of 1 - 4mg (0.5mg in children). Since physostigmine is rapidly metabolized, symptoms may recur within 1 - 2 hours, and repeated injections may be needed.

Diazepam may be used to manage excitation states and convulsions, but large doses should be avoided in view of the possibility of worsening respiratory depression. In severe cases artificial respiration may be necessary. In the event of hyperthermia, urgent action should be taken to dissipate heat (cold baths). Other appropriate supportive measures should be used as required.

For risk assessment and advice on the management of overdose please contact the National Poisons Centre on 0800 POISON (0800 764 766).

5. Pharmacological Properties

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antiemetics and antinauseants, ATC code: A04AD01

The transdermal therapeutic system (TTS) is a novel form of drug delivery designed to achieve a continuous release of scopolamine through the intact skin to the systemic circulation up to 72 hours.

Scopolamine is a naturally occurring belladonna alkaloid and has anticholinergic properties. It acts as a competitive antagonist to acetylcholine and other parasympathomimetic agents. Its mechanism of action in the central nervous system in preventing motion sickness has yet to be elucidated. The ability of scopolamine to prevent nausea and vomiting due to motion sickness may be related to inhibition of cholinergic impulse conduction from the vestibular nucleus to the higher centres of the

central nervous system, as well as from the reticular formation to the vomiting centre. Scopolamine produces classical symptoms of parasympathetic blockade.

Mechanism of action

It has been suggested that the ability of scopolamine to prevent nausea and vomiting due to motion sickness may be related to inhibition of cholinergic impulse conduction from the vestibular nucleus to the higher centres of the central nervous system, as well as from the reticular formation to the vomiting centre.

Scopolamine is a naturally occurring belladonna alkaloid, the pharmacological properties of which are well known. As a parasympatholytic agent it competitively antagonises acetylcholine (or other direct parasympathomimetics) at the muscarinic receptor. This means that its effect can be abolished by high doses of a parasympathomimetic agent. The effect of scopolamine depends on the sensitivity of the target organs and on the size of the dose employed. In therapeutic doses scopolamine depresses motor function, causes drowsiness, inhibits the secretion of saliva and sweat, and dilates the pupils.

5.2 Pharmacokinetic properties

Absorption

Following application of the scopolamine transdermal patch, equilibrium between the quantity of active substance absorbed and eliminated is reached after about 6 hours. The transdermal therapeutic system produces steady plasma concentrations of scopolamine in the range of 0.17 – 0.33nmol/litre. Provided the system is not removed, the equilibrium is maintained for 72 hours.

Distribution

Little data about the distribution of scopolamine is available; however, the drug distributes well and reaches the central nervous system. Scopolamine seems to be bound to plasma proteins in a reversible manner.

Biotransformation

The metabolism of scopolamine has not been fully characterized. The drug appears to be metabolized in the liver (glucoronide or sulfate conjugation).

Elimination

After removal of the scopolamine transdermal patch, the quantity of active substance in the body diminishes slowly within the following 24 hours to approx. one-third, because scopolamine still present in the skin continues to enter the bloodstream.

Excretion

Scopolamine is excreted in urine. The urinary excretion rate of free and total (free plus conjugated) scopolamine was about 0.7 and 3.8 micrograms/hour, respectively after the application of a single transdermal scopolamine patch. Less than 10% of the total dose is excreted in urine as unchanged drug and its metabolites over 108 hours.

Half life

Following a single application of two scopolamine transdermal patches, the average elimination half-life of the drug (free scopolamine) was 9.5 hours.

5.3 Preclinical safety data

Non-clinical information

Non-clinical safety data for scopolamine have not revealed findings which are of relevance to the

recommended dosage and use of the product.

Fertility

Fertility studies performed in female rats revealed no evidence of impaired fertility following daily subcutaneous administration of scopolamine hydrobromide. Body weights were reduced in females of the highest dose-group. Plasma levels in females of this group were approximately 500-fold greater than the level achieved in humans using scopolamine transdermal patch.

Reproductive and development toxicity

A marginal embryotoxic effect was seen in rabbits with scopolamine hydrobromide administered by daily intravenous injection at doses that were approximately 100 times the level achieved with TDS. No adverse effects were recorded in reprotoxicity studies following IV administration in rats.

In a prenatal developmental toxicity study, scopolamine hydrobromide trihydrate was administered to mice on days 6 through 15 of gestation at doses of 0, 10, 100, 450 and 900mg/kg/day (0.8, 8, 36, or 72mg/kg/day human equivalent dose; 77-, 777-, 3495-, or 6990-fold greater than the highest clinical dose). Caesarean sections were performed on gestation day 17. Treatment up to 900mg/kg/day (72mg/kg/day human equivalent dose; 6990-fold greater than the highest clinical dose) had no adverse effect on prenatal viability and produced no evidence of teratogenesis. A marginal reduction in foetal body weight was observed at doses of 450 and 900mg/kg/day (36, or 72mg/kg/day human equivalent dose; 3495-, or 6990-fold greater than the highest clinical dose) which also caused marginal maternal toxicity. Under the conditions of this study, the no observed adverse effect level (NOAEL) was 100mg/kg/day (8mg/kg/day human equivalent dose; 777-fold greater than the highest clinical dose) for both maternal and foetal toxicity.

In another prenatal developmental toxicity study, scopolamine hydrobromide trihydrate was administered to CD rats on days 6 through 15 of gestation at doses of 0, 10, 100, 450 and 900 mg/kg/day (1.6, 16, 72, or 144mg/kg/day human equivalent dose; 155-, 1553, 6990-, or 13980-fold greater than the highest clinical dose). A marginal reduction in foetal body weight was noted at doses of 100mg/kg/day (16mg/kg/day human equivalent dose; 1553-fold greater than the highest clinical dose) and greater. There was a significant increase in the incidence of short ribs at doses of 450mg/kg/day (72mg/kg/day human equivalent dose; 6990-fold greater than the highest clinical dose) and greater. These effects were accompanied by a significant dose-related maternal toxicity. Marginal evidence of intrauterine growth retardation and a non-dose-related trend toward an increase in the incidence of malformations was observed only at doses that caused significant maternal toxicity.

Under the conditions of this study, the NOAEL was 10mg/kg/day (1.6mg/kg/day human equivalent dose; 155-fold greater than the highest clinical dose) for both maternal and foetal toxicity.

6. Pharmaceutical Particulars

6.1 List of excipients

Scopolamine Transdermal System transdermal patch also contains:

- polyethylene/polyester film
- polypropylene
- povidone
- silicone adhesive
- brown imprinting ink

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

24 months.

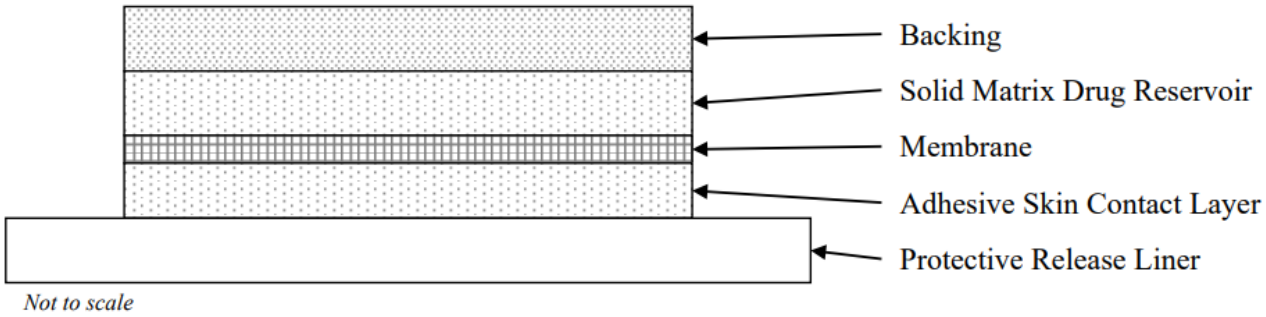
6.4 Special precautions for storage

Store at 25^{0}C.

6.5 Nature and contents of container

Scopolamine Transdermal System are supplied in packs of 2, 4 or 10 pouches.

Proceeding from the visible surface towards the surface attached to the skin, there are four consecutive layers: (1) a baking layer of pigmented polyethylene/polyester film printed with “Scopolamine 1 mg/3 days” in brown ink; (2) a solid matrix drug reservoir of scopolamine base (hyoscine), povidone, and silicone adhesive; (3) a micro-porous polypropylene membrane; (4) an adhesive skin contact layer of silicone adhesive, scopolamine base (hyoscine) and povidone.



Not all pack sizes are marketed.

6.6 Special precautions for disposal

After removing Scopolamine Transdermal System, be sure to wash hands and the area behind ear thoroughly with soap and water. Fold the used Scopolamine Transdermal System in half with the sticky side together and dispose it in household trash out of reach of children, pets or others.

7. Medicines Schedule

Pharmacy Only Medicine.

8. Sponsor Details

Viatris Ltd
PO Box 11-183
Ellerslie
AUCKLAND
www.viatris.co.nz
Telephone 0800 168 169

9. Date of First Approval

04 April 2024

10. Date of Revision of the Text

10 December 2025

Summary table of changes

Section	Summary of new information
4.2	Additional information regarding safe handling of the transdermal patch.
4.7	Additional restriction regarding use of machinery and vehicles.
4.8	Additional ADRs added to align with source document.
5.1	Additional information added for pharmacodynamic properties.