

NEW ZEALAND DATA SHEET

1. PRODUCT NAME

TOBREX™ Eye Drops 0.3%

TOBREX™ Eye Ointment 0.3 %

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each mL of Tobrex Eye Drops contains the active ingredient tobramycin 3 mg in 1 mL.

Excipient with known effect

Benzalkonium chloride 0.1 mg in 1 mL (0.01%) as a preservative in the eye drops.

Each g of Tobrex Eye Ointment contains the active ingredient tobramycin 3 mg in 1 g.

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Eye drops, solution.

Eye ointment.

4. CLINICAL PARTICULARS

4.1. Therapeutic indications

Tobrex Eye Drops and Eye Ointment are topical antibiotics indicated in the treatment of external infections of the eye and its adnexa caused by susceptible bacteria. Appropriate monitoring of bacterial response to topical antibiotic therapy should accompany the use of Tobrex.

4.2. Dose and method of administration

Tobrex Eye Drops

In mild to moderate disease, instill one or two drops into the affected eye(s) every four hours. In severe infections, instill two drops into the eye(s) hourly until improvement.

The maximum dose is 14 drops/day in children 1 to <2 years and 46 drops/day in children 2 to <12 years of age.

Tobrex Eye Ointment

In mild to moderate disease, apply a 1 - 1.5 cm ribbon into the affected eye(s) two or three times per day. In severe infections, apply a 1 - 1.5 cm ribbon every three to four hours until improvement.

Treatment with Tobrex should be reduced prior to discontinuation. The usual duration of treatment is 7 to 10 days.

4.3. Contraindications

Tobrex Eye Drops and Eye Ointment are contraindicated in patients with known hypersensitivity to tobramycin or to other aminoglycosides or any other ingredients in this product listed under Section 6.1.

4.4. Special warnings and precautions for use

FOR TOPICAL OPHTHALMIC USE ONLY. NOT FOR INJECTION INTO THE EYE.

Hypersensitivity

Sensitivity to topically administered aminoglycosides may occur in some patients. Severity of hypersensitivity reactions may vary from local effects to generalized reactions such as erythema, itching, urticarial, skin rash, anaphylaxis, anaphylactoid reactions, or bullous reactions. If hypersensitivity develops with this product, discontinue use and institute appropriate therapy.

If Tobrex Eye Drops or Eye Ointment are administered concomitantly with systemic aminoglycoside antibiotics, care should be taken to monitor the total serum concentration.

Serious adverse reactions including neurotoxicity, ototoxicity and nephrotoxicity have occurred in patients receiving systemic aminoglycosides therapy. Caution is advised when Tobrex Eye Drops or Eye Ointment are used concomitantly with systemic aminoglycosides.

Caution should be exercised when prescribing Tobrex Eye Drops or Eye Ointment to patients with known or suspected neuromuscular disorders such as myasthenia gravis or Parkinson's disease. Aminoglycosides may aggravate muscle weakness because of their potential effect on neuromuscular function.

General

As with any antibiotic, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, appropriate therapy should be initiated.

Cross-sensitivity to other aminoglycoside antibiotics may occur. The possibility that patients that become sensitised to topical ocular tobramycin may also be sensitive to other topical and/or systemic aminoglycosides should be considered.

Ophthalmic solutions and ointments may retard corneal wound healing.

Paediatric use

Safety and effectiveness in children below the age of 1 year have not been established.

Use in the elderly

No overall differences in safety or effectiveness have been observed between elderly and other adult patients.

Renal, auditory, vestibular, or neuromuscular impairment

Patients receiving concomitant parenteral tobramycin (aminoglycoside) and topical tobramycin therapies should be monitored as clinically appropriate. Caution should be exercised with known or suspected renal, auditory, vestibular, or neuromuscular dysfunction.

Renal and hepatic impairment

Tobrex Eye Drops or Eye Ointment have not been studied in these patient populations. However, due to low systemic absorption of tobramycin after topical administration of this product, dose adjustment is not necessary.

Contact lenses

Neither Tobrex Eye Drops nor Eye Ointment should be instilled while the patient is wearing contact lenses. Contact lens wear is not recommended during treatment of an ocular infection.

If patients continue to wear contact lenses while under treatment with Tobrex Eye Drops, they should remove their lens(es) prior to instilling the drops in the affected eye(s). Lens(es) should not be inserted into the eye(s) until 15 minutes after instillation of the drops. Tobrex Eye Drops contains benzalkonium chloride which may cause eye irritation and is known to discolour soft contact lenses. Avoid contact with soft contact lenses.

Due to the nature of the ointment base, patients should be advised not to wear their contact lenses while they are being treated with Tobrex Eye Ointment.

4.5 Interactions with other medicinal products and other forms of interactions

If Tobrex Eye Drops or Eye Ointment are used while the patient is on a systemic aminoglycoside antibiotic, the patient's total serum aminoglycoside concentration should be monitored.

Concurrent and/or sequential use of Tobrex with other drugs with neurotoxic or ototoxic potential should be avoided.

Do not use Tobrex simultaneously with a topical beta lactam type antibiotic as this is likely to result in inactivation of tobramycin.

4.6 Fertility, pregnancy and lactation

Pregnancy

Category B3.

There are no adequate, well-controlled studies using the topical administration of Tobrex (tobramycin) Eye Drops or Eye Ointment in pregnant women.

A published retrospective assessment of women receiving parenteral aminoglycosides during pregnancy suggested no detectable teratogenic risk to the fetus. The number of women treated with parenteral tobramycin in this study was very small, 2 in the case group and 4 in the control group and so no firm specific conclusions with regard to tobramycin exposure can be drawn from this study. However, the study concluded that parenteral administration of gentamicin and oral neomycin during pregnancy presents no detectable teratogenic risk to the fetus, when restricted to structural developmental abnormalities. This conclusion can be extended to the class of aminoglycoside antibiotics as a whole.

There are no firm data concerning the detectable blood concentrations in mothers or tissue concentrations in the fetus. The systemic absorption of tobramycin after topical administration of Tobrex is expected to be low.

Tobrex should be used during pregnancy only if the potential benefit for the mother justifies the potential risk to the fetus otherwise tobramycin is not recommended during pregnancy.

Refer to section 5.3 for pre-clinical reproductive studies on aminoglycosides.

Breast-feeding

There are no adequate, well-controlled studies using the topical administration of Tobrex Eye Drops or Eye Ointment in women who are breast feeding. It is unknown whether tobramycin is excreted in human milk following topical ocular administration.

Tobramycin is excreted in human milk after systemic administration. Risk to the breast fed child cannot be excluded.

Tobrex should be used only if the potential benefit for the mother justifies the potential

risk to the infant.

Fertility

Studies have not been performed to evaluate the effect of topical ocular administration of Tobrex Eye Drops or Eye Ointment on human fertility.

Tobrex Eye drops has a boron containing excipient. In animal studies, boron has been shown to cause reduced fertility and embryofetal development effects, and this appears to be dose related. The relevance of this to humans is uncertain. When used as directed (see section 4.2), the use of this medicine is unlikely to exceed the safety threshold for maximum daily boron exposure.

4.7 Effects on ability to drive or use machines

As with other ophthalmic medications, temporary blurred vision or other visual disturbances may affect the ability to drive or use machines. If blurred vision occurs upon application, the patient must wait until the vision clears before driving or using machinery.

4.8 Undesirable effects

The most frequent adverse reactions to Tobrex Eye Drops and Eye Ointment are localised ocular toxicity and hypersensitivity, including punctate keratitis, eye and lid itching, lid swelling, ocular hyperaemia, conjunctival erythema and lacrimation. These reactions occur in approximately 3% of patients treated with Tobrex.

Other adverse reactions associated with ophthalmic tobramycin are burning and stinging of the eyes. For ophthalmic ointment dosage form: blurred vision.

A summary of treatment emergent adverse events based on literature and postmarketing experience and their estimate of frequencies (very common, common, uncommon, rare, very rare, and not known) in accordance with preferred term and system organ classes (SOC) of any severity are listed below.

Within each frequency-grouping, undesirable effects are presented in decreasing order of seriousness. These adverse reactions were observed following ophthalmic use of Tobramycin Eye Drops and/or Eye Ointment:

Immune system disorders

Uncommon (> 0.1% to ≤ 1%): hypersensitivity.

Not known: anaphylactic reaction.

Nervous system disorders

Uncommon (> 0.1% to ≤ 1%): headache.

Eye disorders

Common (> 1% to < 10%): ocular discomfort, ocular hyperaemia.

Uncommon (> 0.1% to ≤ 1%): keratitis, corneal abrasion, conjunctival disorder, visual impairment, vision blurred, erythema of eyelid, conjunctival oedema, eyelid oedema, eyelid disorder, eye pain, dry eye, eye discharge, eye pruritus, foreign body sensation in eyes, lacrimation increased.

Not known: eye allergy, eye irritation, eyelids pruritus.

Skin and subcutaneous tissue disorders

Uncommon (> 0.1% to ≤ 1%): urticaria, dermatitis, madarosis, leukoderma, pruritus, dry

skin.

Not known: Stevens-Johnson syndrome, erythema multiforme, rash.

If topical ocular tobramycin is administered concomitantly with systemic aminoglycoside antibiotics, the possibility of increased systemic toxicity cannot be excluded and care should be taken to monitor the total serum concentration. Prolonged levels above 12 micrograms/mL should be avoided.

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://nzphvc.otago.ac.nz/reporting>.

4.9 Overdose

Clinically apparent signs and symptoms of Tobrex Eye Drops or Eye Ointment overdose are not expected when used as above nor in the event of accidental ingestion of the contents of one bottle or tube. However, excessive local reactions may occur. In such cases treatment should be discontinued and appropriate treatment instituted.

A topical overdose of Tobrex may be flushed from the eye(s) with lukewarm water.

For 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: Sensory organ; ophthalmologicals; antibiotics ATC Code S01AA12.

Mechanism of action

Tobramycin is actively transported across the bacterial cell membrane, and binds to a specific receptor protein on the 30 S subunit of bacterial ribosomes and interferes with an initiation complex between messenger RNA (mRNA) and the 30 S subunit, thus inhibiting protein synthesis.

Pharmacodynamic effects

Microbiology

In Vitro Data: *in vitro* studies have demonstrated tobramycin is active against susceptible strains of the following microorganisms:

- *Staphylococci*, including *S. aureus* and *S. epidermidis* (coagulase-positive and coagulase- negative), including penicillin-resistant strains.
- *Streptococci*, including some of the group A - beta-haemolytic species, some non- haemolytic species, and some *Streptococcus pneumoniae*.
- *Pseudomonas aeruginosa*, *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter aerogenes*, *Proteus mirabilis* (indole-negative) and indole-positive *Proteus* species.

Bacterial resistance may develop upon prolonged use.

Tobramycin is not effective against most strains of group D *Streptococci*.

5.2 Pharmacokinetic properties

Not available.

5.3 Preclinical safety data

Pregnancy

Studies in animals have shown evidence of an increased occurrence of foetal damage following systemic administration of aminoglycosides to pregnant mothers. There is evidence of selective uptake of aminoglycosides by the foetal kidney resulting in damage (probably reversible) to immature nephrons. Eighth cranial nerve damage has also been reported following *in utero* exposure to some of the aminoglycosides. Because of their chemical similarity, all aminoglycosides must be considered potentially nephrotoxic and ototoxic to the fetus. It should also be noted that therapeutic blood concentrations in the mother do not equate with safety for the fetus.

Carcinogenicity

No studies have been conducted to evaluate the carcinogenic potential of tobramycin.

Mutagenicity

In vitro and *in vivo* studies with tobramycin did not reveal a mutagenic potential.

6. PHARMACEUTICAL PARTICULARS

6.1. List of excipients

Tobramycin Eye Drops

Benzalkonium chloride 0.1 mg in 1 mL as the preservative

Boric acid

Sodium sulfate

Sodium chloride

Tyloxapol

Sodium hydroxide and/or sulphuric acid to adjust pH

The pH range is between 7.0 and 8.0.

Tobrex Eye Ointment

Chlorobutanol 0.5% (5 mg) as a preservative

Liquid paraffin

White soft paraffin.

6.2 Incompatibilities

Unknown

6.3 Shelf life

Tobrex Eye Drops and Eye Ointment: 3 years

6.4 Special precautions for storage

Store Tobrex Eye Drops below 25°C. Contents should be discarded four weeks after opening.

Store Tobrex Eye Ointment below 25°C. Contents should be discarded four weeks after opening.

6.5 Nature and contents of container

Tobrex Eye Drops come in a 5 mL opaque, dropper bottle consisting of a low density polyethylene bottle with a low density polyethylene plug and polypropylene cap.

Tobrex Eye Ointment comes in 3.5 g aluminum tube.

6.6 Special precautions for disposal

No special requirements for disposal.

7. MEDICINE SCHEDULE

Prescription Only Medicine

8. SPONSOR

Novartis New Zealand Limited

PO Box 99102

Newmarket

Auckland 1149

New Zealand.

Free Phone: 0800 354 335

9. DATE OF FIRST APPROVAL

Tobrex Eye Drops: 4 November 1982

Tobrex Eye Ointment: 12 June 1984

10. DATE OF REVISION OF THE TEXT

16 September 2021

SUMMARY TABLE OF CHANGES

Section Changed	Summary of new information
4.2	Maximum dose added for children 1 to under 2 years of age and for children 2 to under 12 years of age.
4.6	Added fertility concerns with boron statement.

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