For the use only of Registered Medical Practitioners or a Hospital or a Laboratory

NEOSPORIN - H EAR DROPS

1. GENERIC NAME

Neomycin Sulphate, Polymyxin B Sulphate and Hydrocortisone Ear Drops

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each mL contains:
Polymyxin B Sulphate IP equivalent to Polymyxin B 10000 units
Neomycin Sulphate IP equivalent to Neomycin 3400 units
Hydrocortisone IP 10 mg
Preservatives:
Methylparaben IP 0.1% w/v
Propylparaben IP 0.0111% w/v

3. DOSAGE FORM AND STRENGTH

Suspension.

Each mL contains:
Polymyxin B Sulphate IP equivalent to Polymyxin B 10000 units
Neomycin Sulphate IP equivalent to Neomycin 3400 units
Hydrocortisone IP 10 mg
Preservatives:
Methylparaben IP 0.1% w/v
Propylparaben IP 0.0111% w/v

4. CLINICAL PARTICULARS

4.1 Therapeutic Indications

NEOSPORIN - H EAR DROPS are indicated for the treatment of otitis externa due to, or complicated by, bacterial infection.

The use of *NEOSPORIN - H EAR DROPS* does not exclude concomitant systemic therapy with antibiotics where appropriate (*see 4.4 Special Warnings and Precautions for Use*).

4.2 Posology and Method of Administration

NEOSPORIN - H EAR DROPS are for topical administration into the ear only.

Populations

- *Adults*

Following cleansing and drying of the external auditory meatus and canal as appropriate, three drops should be instilled into the affected ear three or four times daily.

Alternatively, a gauze wick may be introduced into the external auditory canal and kept saturated with the solution; the wick may be left in place for 24 to 48 hours.

Soap should not be used for cleansing of the external auditory meatus and canal as it may inactivate the antibiotics.

Treatment should not be continued for more than seven days without medical supervision.

- *Children*

NEOSPORIN - H EAR DROPS are suitable for use in children (2 years and over) at the same dose as adults.

A possibility of increased absorption exists in very young children, thus *NEOSPORIN - H EAR DROPS* are not recommended for use in neonates and infants (less than 2 years) (*see 4.3 Contraindications* and *4.4 Special Warnings and Precautions for Use*).

- *Elderly*

NEOSPORIN - H EAR DROPS are suitable for use in the elderly. Caution should be exercised in cases where a decrease in renal function exists and significant systemic absorption of neomycin sulphate may occur (*see 4.4 Special Warnings and Precautions for Use*).

- *Renal Impairment*

Dosage should be reduced in patients with reduced renal function (*see 4.4 Special Warnings and Precautions for Use*).

4.3 Contraindications

- The use of *NEOSPORIN - H EAR DROPS* is contraindicated in patients in whom perforation of the tympanic membrane is known or suspected.

- Due to the known ototoxic and nephrotoxic potential of neomycin sulphate, the use of *NEOSPORIN - H EAR DROPS* in large quantities or on large areas for prolonged periods of time is not recommended in circumstances where significant systemic absorption may occur.

- The use of *NEOSPORIN - H EAR DROPS* is contraindicated in patients who have demonstrated allergic hypersensitivity to any of the components of the preparation or to cross-sensitising substances such as framycetin, kanamycin, gentamicin and other related antibiotics.

- The use of *NEOSPORIN - H EAR DROPS* is contraindicated in the presence of untreated Herpes simplex, Herpes zoster and fungal infections.

- A possibility of increased absorption exists in very young children, thus *NEOSPORIN - H EAR DROPS* are not recommended for use in neonates and infants (up to 2 years). In neonates and infants, absorption by immature skin may be enhanced and renal function may be immature.

4.4 Special Warnings and Precautions for Use

All topically active corticosteroids possess the potential to suppress the pituitary-adrenal axis following systemic absorption. Development of adverse systemic effects due to the hydrocortisone component of *NEOSPORIN - H EAR DROPS* is considered to be unlikely, although the recommended dosage should not be exceeded, particularly in infants.

Visual disturbance has been reported by patients using systemic and/or topical corticosteroids. If a patient has blurred vision or other visual disturbances, consider evaluation of possible causes which may include central serious chorioretinopathy.

As with other combined antibacterial/corticosteroid preparations, prolonged use may result in the overgrowth of non-susceptible organisms, including fungi.

Pseudomembranous colitis has been reported with the use of antibiotics and may range in severity from mild to life-threatening. Therefore, it is important to consider its diagnosis in patients who develop diarrhoea during or after antibiotic use. Although this is unlikely to occur with topically applied antibiotics, if prolonged or significant diarrhoea occurs or the patient experiences abdominal cramps, treatment should be discontinued immediately and the patient investigated further.

Hydrocortisone may mask the allergic effects produced by any components of *NEOSPORIN - H EAR DROPS.*

Accidental maladministration, prescription and dispending errors have been reported. *NEOSPORIN - H EAR DROPS* should only be used in the ear and are not suitable for use in the

eye. Particular care should be taken to ensure that the correct formulation has been provided and administered. If ear drops are accidentally introduced into the eye, the eye should be rinsed thoroughly with cold water.

NEOSPORIN - H EAR DROPS should be kept out of reach of children.

Following significant systemic absorption, aminoglycosides such as neomycin can cause irreversible ototoxicity; neomycin and polymyxin B sulphate have nephrotoxic potential and polymyxin B sulphate has neurotoxic potential.

In renal impairment the plasma clearance of neomycin is reduced (*see 4.2 Posology and Method of Administration - Renal Impairment*).

4.5 Drug Interactions

Following significant systemic absorption, both neomycin sulphate and polymyxin B sulphate can intensify and prolong the respiratory depressant effects of neuromuscular blocking agents.

4.6 Use in Special Populations

- *Pregnancy and Lactation*

There is little information to demonstrate the possible effect of topically applied neomycin in pregnancy and lactation. However, neomycin present in maternal blood can cross the placenta and may give rise to a theoretical risk of foetal toxicity, thus use of *NEOSPORIN - H EAR DROPS* is not recommended in pregnancy or lactation.

- *Children*

NEOSPORIN - H EAR DROPS are suitable for use in children (2 years and over) at the same dose as adults.

A possibility of increased absorption exists in very young children, thus *NEOSPORIN - H EAR DROPS* are not recommended for use in neonates and infants (less than 2 years) (*see 4.3 Contraindications* and *4.4 Special Warnings and Precautions for Use*).

- *Elderly*

NEOSPORIN - H EAR DROPS are suitable for use in the elderly. Caution should be exercised in cases where a decrease in renal function exists and significant systemic absorption of neomycin sulphate may occur (*see 4.4 Special Warnings and Precautions for Use*).

- *Renal Impairment*

Dosage should be reduced in patients with reduced renal function (*see 4.4 Special Warnings and Precautions for Use*).

4.7 Effects on Ability to Drive and Use Machines

Not relevant.

4.8 Undesirable Effects

The incidence of allergic hypersensitivity reactions to neomycin sulphate in the general population is low. There is, however, an increased incidence of hypersensivity to neomycin in certain selected groups of patients in dermatological practice, particularly those with venous stasis eczema and ulceration, and chronic otitis externa.

Allergic hypersensitivity reactions following topical application of polymyxin B sulphate and hydrocortisone are rare.

Allergic hypersensitivity to neomycin following topical use may manifest itself as an eczematous exacerbation with reddening, scaling, swelling and itching or as a failure of the lesion to heal.

Stinging and burning have been reported when *NEOSPORIN - H EAR DROPS* have gained access to the middle ear.

Postmarketing Data

Immune System Disorders

Rare: Application site hypersensitivity

General Disorders and Administration Site Conditions

Rare: Headache, application site reaction including: pain, irritation, oedema, burning sensation, rash

Skin and Subcutaneous Tissue Disorders

Rare: Local exfoliative dermatitis, skin atrophy, telangiectasia, striae, exacerbation of underlying skin condition, including eczema.

4.9 Overdose

Symptoms and Signs

No specific symptoms or signs have been associated with excessive use of *NEOSPORIN - H EAR DROPS*. However, consideration should be given to significant systemic *absorption (see 4.4 Special Warnings and Precautions for Use).*

Treatment

Use of the product should be stopped and the patient's general status, hearing acuity, renal and neuromuscular functions should be monitored.

In overdose, blood concentrations of neomycin sulphate and polymyxin B sulphate should be determined. Haemodialysis may reduce the serum level of neomycin sulphate.

5. PHARMACOLOGICAL PROPERTIES

5.1 Mechanism of Action and Pharmacodynamic Properties

Hydrocortisone: possesses anti-inflammatory, anti-allergic and anti-pruritic activity.

Polymyxin B sulphate: Polymyxin B is thought to damage the bacterial cytoplasmic membrane, which subsequently causes leakage of the intracellular components. The drug interferes with the structure and function of outer and cytoplasmic membranes in gram-negative bacteria. The polymyxins interact with lipopolysaccharides and phospholipids of the outer membrane. They also interact electrostatically by displacing calcium and magnesium from negatively charged phosphate groups of membrane lipids.

Neomycin sulphate: Neomycin is an aminoglycoside antibiotic which acts by binding to a specific protein on the 30S subunit of the microbial ribosome, leading to faulty alignment or recognition with respect to messenger RNA and probably t-RNA during initiation of microbial peptide chain formation. The messenger RNA is misread on the recognition region of the ribosome, resulting in the wrong amino acid being inserted into the peptide. The affected ribosomes are released and may be able to re-initiate and repeat the process, leading to increased proportions of nonfunctional peptide chains.

In vitro activity:

NEOSPORIN - H EAR DROPS are active against a wide range of bacterial pathogens. The range of activity includes :

Gram-positive organisms:

Staphylococcus spp. including *Staphylococcus aureus*

Gram-negative organisms:

Enterobacter spp.
Escherichia spp.
Haemophilus spp.
Klebsiella spp.
Proteus spp.
Pseudomonas spp. including *Pseudomonas aeruginosa*.

NEOSPORIN - H EAR DROPS are not expected to be active against streptococci, including *Streptococcus pyogenes*.

5.2 Pharmacokinetic Properties

No data are available regarding the pharmacokinetics of this product. However since this is a topical preparation and significant systemic absorption is unlikely to occur, the data are irrelevant.

Systemically absorbed neomycin is predominantly excreted by the kidney and the total amount excreted in the urine varies between 30% and 50%. The pharmacokinetics of systemically absorbed polymyxin B has been described.

6. NONCLINICAL PROPERTIES

No relevant data.

7. DESCRIPTION

Suspension.

Each mL contains:

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Neomycin Sulphate IP equivalent to Neomycin 3400 units
Hydrocortisone IP 10 mg
Preservatives:
Methylparaben IP 0.1% w/v
Propylparaben IP 0.0111% w/v

8. PHARMACEUTICAL PARTICULARS

List of Excipients

Propylene Glycol, Polysorbate 80, Cetyl alcohol, Methylparaben and Propylparaben (as preservative), Purified water.

8.1 Incompatibilities

No incompatibilities have been identified.

8.2 Shelf Life

The expiry date is indicated on the label and packaging.

Use the suspension within one month after opening the container.

8.3 Packaging Information

Vial in a carton with a dropper.

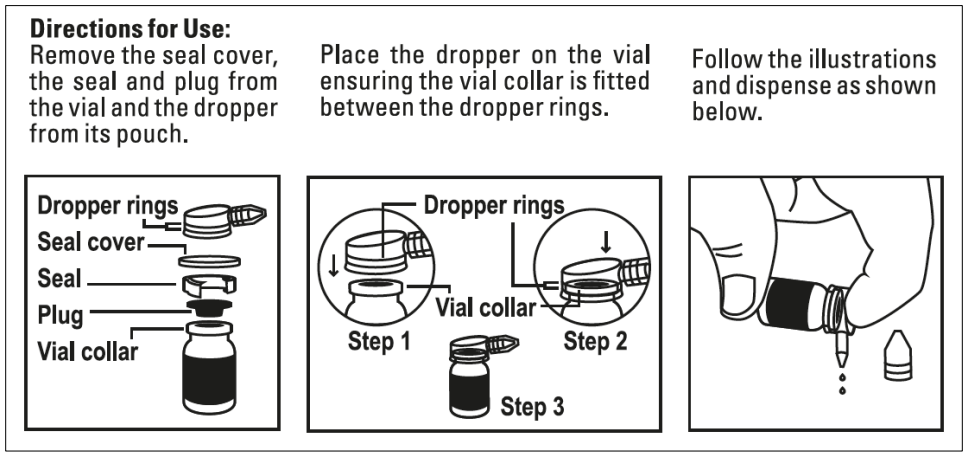
8.4 Storage and Handling Instructions

Store at temperatures not exceeding 30ºC. Protect from direct sunlight. Do not freeze.
Keep out of reach of children.

FOR EXTERNAL USE ONLY.

Shake well before use.

Avoid contamination of the contents during use.



9. PATIENT COUNSELLING INFORMATION

Registered Medical Practitioners may counsel their patients (and/or patient's caregiver as applicable) about the special warnings and precautions for use, drug interactions, undesirable effects, and any relevant contra-indications of *NEOSPORIN - H EAR DROPS*. Patients (and/or

patient's caregiver) may also be informed about posology, method of administration and storage/handling information as applicable.

10. DETAILS OF MANUFACTURER

The Manufacturing Site details are mentioned on the label and packaging.

For further information please contact:
GlaxoSmithKline Pharmaceuticals Limited
Registered Office
Dr. Annie Besant Road, Worli,
Mumbai 400 030, India.

11. DETAILS OF PERMISSION OR LICENCE NUMBER WITH DATE

Manufacturing License number is indicated on the label and packaging.

12. DATE OF REVISION

16-NOV-2022

Version: NEO-HED/PI/IN/2022/01

Adapted from Neomycin-polymyxin B-Hydrocortisone Ear Drops GDS Version 11 dated 10 April 2018