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

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT

1. GENERIC NAME

Neomycin and Polymyxin B Sulfates and Bacitracin Zinc Ointment / Ophthalmic Ointment USP

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

NEOSPORIN SKIN OINTMENT (for skin use)

Each gram contains:

Polymyxin B Sulphate I.P. equivalent to Polymyxin B	5000 units
Bacitracin Zinc I.P. equivalent to Bacitracin	400 units
Neomycin Sulphate I.P. equivalent to Neomycin	3400 units

NEOSPORIN ANTIBIOTIC OINTMENT (for skin and ophthalmic use)
(sterilized by gamma radiation)

Each gram contains:

Polymyxin B Sulphate IP equivalent to Polymyxin B	5000 units
Bacitracin Zinc IP equivalent to Bacitracin	400 units
Neomycin Sulphate IP equivalent to Neomycin	3400 units

3. DOSAGE FORM AND STRENGTH

Ointment (for topical and ophthalmic use).

NEOSPORIN SKIN OINTMENT (for skin use)

Each gram contains:

Polymyxin B Sulphate I.P. equivalent to Polymyxin B	5000 units
Bacitracin Zinc I.P. equivalent to Bacitracin	400 units
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NEOSPORIN ANTIBIOTIC OINTMENT (for skin and ophthalmic use)
(sterilized by gamma radiation)

Each gram contains:

Polymyxin B Sulphate IP equivalent to Polymyxin B	5000 units
Bacitracin Zinc IP equivalent to Bacitracin	400 units
Neomycin Sulphate IP equivalent to Neomycin	3400 units

4. CLINICAL PARTICULARS

4.1 Therapeutic Indications

NEOSPORIN SKIN OINTMENT (for skin use)

NEOSPORIN SKIN OINTMENT is indicated in conditions where superficial bacterial skin infection is present or likely to occur. These include:

- Prophylaxis in graft donor sites, the suturing of lacerations, accidental cuts, scratches and abrasions.

- Treatment of infected ulcers, accidental cuts, scratches and abrasions and superficial skin infections following surgical procedures and minor burns, impetigo and secondarily infected skin conditions.

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

NEOSPORIN ANTIBIOTIC OINTMENT (for skin and ophthalmic use)

NEOSPORIN ANTIBIOTIC OINTMENT is indicated for the treatment of susceptible bacterial infections of the eye and its adnexa, including conjunctivitis, keratitis, infected corneal ulcer, ulcerative blepharitis with associated conjunctivitis, and chronic dacryocystitis.

NEOSPORIN ANTIBIOTIC OINTMENT may be applied both pre- and post- operatively to prevent ocular infection following surgical procedures, including removal of foreign bodies from the eye *(see 4.3 Contraindications).*

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

NEOSPORIN ANTIBIOTIC OINTMENT can be used for skin and ophthalmic use but the same tube should not be used simultaneously for skin and eye infections i.e. two separate tubes should be used.

Skin indications are same as mentioned above for *NEOSPORIN SKIN OINTMENT*.

4.2 Posology and Method of Administration

Topical Use:

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT is for topical skin administration only.

Ophthalmic Use:

NEOSPORIN ANTIBIOTIC OINTMENT is for topical ophthalmic administration only.

Populations

- *Adults*

Topical Use :

Following any necessary removal of debris, such as pus, crusts, etc. from the affected area, a thin film of ointment should be applied one to three times daily, depending on the clinical condition.

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

Ophthalmic Use :

A thin film of the ointment may be applied directly to the affected area; alternatively, a ribbon of ointment may be placed inside the lower conjunctival sac. Application may be repeated two to four times a day, depending on the severity of the condition.

Treatment should be continued until at least two days after the condition has resolved, but treatment should not be continued for more than seven days without medical supervision.

- *Children*

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT is suitable for use in children (two years and over) at the same dose as adults. A possibility of increased absorption exists in very young children, thus the product is not recommended for use in neonates and infants (less than two years) *(see 4.3 Contraindications and 4.4 Special Warnings and Precautions for Use).*

- *Elderly*

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT is 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 SKIN / ANTIBIOTIC OINTMENT* is contraindicated in patients who have demonstrated allergic hypersensitivity to any of the ingredients of the product or to cross-sensitising substances such as framycetin, kanamycin, gentamycin and other related antibiotics.

Due to the known ototoxic and nephrotoxic potential of neomycin sulphate the use of *NEOSPORIN SKIN / ANTIBIOTIC OINTMENT* in large quantities or on large areas for prolonged periods of time is not recommended in circumstances where significant systemic absorption may occur.

A possibility of increased absorption exists in very young children, thus *NEOSPORIN SKIN / ANTIBIOTIC OINTMENT* is not recommended for use in neonates and infants (less than 2 years). In neonates and infants, absorption by immature skin may be enhanced and renal function may be immature.

Topical ointment:

The presence of pre-existing nerve deafness is a contraindication to the use of *NEOSPORIN SKIN / ANTIBIOTIC OINTMENT* or any topical aminoglycoside in circumstances where significant systemic absorption could occur.

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT should not be used to treat otitis externa in the presence of a perforated tympanic membrane because of the risk of ototoxicity.

Ophthalmic ointment:

NEOSPORIN ANTIBIOTIC OINTMENT should not be used during surgical procedures or before surgery in circumstances where the product could gain access to intraocular fluids.

4.4 Special Warnings and Precautions for Use

As with other antibacterial 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.

Following significant systemic absorption, aminoglycosides such as neomycin can cause irreversible ototoxicity; neomycin sulphate, polymyxin B sulphate and bacitracin zinc 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).*

Topical ointment

The concurrent use of other aminoglycoside antibiotics is not recommended in circumstances where significant systemic absorption of neomycin sulphate could occur following topical application.

Avoid introduction of *NEOSPORIN SKIN OINTMENT* into the eyes. If *NEOSPORIN SKIN OINTMENT* is accidentally introduced into the eye, the eye should be rinsed thoroughly with cold water.

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT should be kept out of reach of children.

NEOSPORIN SKIN/ANTIBIOTIC OINTMENT contains paraffin. Instruct patients not to smoke or go near naked flames due to the risk of severe burns. Fabric (clothing, bedding, dressings etc) that have been in contact with this product burn more easily and is a serious fire hazard. Washing clothing and bedding may reduce product build-up but not totally remove it.

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.

Topical ointment

However, the neuromuscular blocking activity of Neomycin Sulphate and Polymyxin B Sulphate is unlikely to present a hazard during use of *NEOSPORIN SKIN/ANTIBIOTIC OINTMENT*.

4.6 Use in Special Populations

- *Children*

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT is suitable for use in children (two years and over) at the same dose as adults. A possibility of increased absorption exists in very young children, thus the product is not recommended for use in neonates and infants (less than two years) *(see 4.3 Contraindications and 4.4 Special Warnings and Precautions for Use).*

- *Elderly*

NEOSPORIN SKIN / ANTIBIOTIC OINTMENT is 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).*

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 SKIN / ANTIBIOTIC OINTMENT* is not recommended in pregnancy and lactation.

4.7 Effects on Ability to Drive and Use Machines

Not relevant.

4.8 Undesirable Effects

Topical Use:

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

Allergic hypersensitivity to neomycin sulphate following topical application may manifest itself as a reddening and scaling of the affected skin, as an eczematous exacerbation of the lesion or as a failure of the lesion to heal.

Allergic hypersensitivity reactions following topical application of polymyxin B sulphate and bacitracin zinc are rare events but have been reported.

Anaphylactic reactions following the topical administration of bacitracin zinc have been reported; but these are rare occurrences.

Post-marketing Data

Immune Systems Disorders

Rare: Application site hypersensitivity.

General Disorders and Administration Site Conditions

Rare: Application site reaction including pain, erythema, oedema, pruritus and exacerbation of underlying skin conditions.

Ophthalmic Use :

The incidence of allergic hypersensitivity to neomycin sulphate in the general population is low, but sensitisation may occur following ocular administration.

Allergic hypersensitivity reactions following topical application of polymyxin B sulphate and bacitracin zinc are rare events.

Anaphylactic reactions following the topical administration of bacitracin zinc have been reported; but these are rare occurrences.

Post-marketing Data

Eye disorders

Rare: Eye pain, eyelid oedema.

4.9 Overdose

Symptoms and Signs

Topical Use :

Following accidental ingestion of *NEOSPORIN SKIN/ANTIBIOTIC OINTMENT*, minimal absorption is expected.

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

Ophthalmic Use :

No information is available concerning the accidental ingestion of *NEOSPORIN ANTIBIOTIC OINTMENT*. However, consideration should be given to significant systemic absorption *(see 4.4 Special Warnings and Precautions for Use).*

Following accidental ingestion of *NEOSPORIN ANTIBIOTIC OINTMENT*, minimal absorption is expected.

Treatment

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

Topical Use :

Blood levels of Neomycin Sulphate, Polymyxin B Sulphate and Bacitracin Zinc should also be determined, and haemodialysis may reduce the serum level of Neomycin Sulphate.

Ophthalmic Use :

Plasma levels of Neomycin may be reduced by haemodialysis.

5. PHARMACOLOGICAL PROPERTIES

5.1 Mechanism of action

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 non-functional peptide chains.

Bacitracin Zinc: Bacitracin is a mixture of polypeptides derived from Bacillus subtilis. It inhibits growth of bacteria primarily by preventing the formation of peptidoglycan chains needed for cell wall synthesis and by altering membrane permeability

5.2 Pharmacodynamic Properties

Topical Use :

NEOSPORIN SKIN/ANTIBIOTIC OINTMENT is active *in vitro* against a wide range of bacterial pathogens found in superficial dermatological infections. Susceptible organisms include:

Gram-positive:
- *Staphylococcus* spp. including *Staphylococcus aureus*
- *Streptococcus* spp. including *Streptococcus pyogenes*.

Gram-negative:
- *Enterobacter* spp.
- *Escherichia* spp.
- *Haemophilus* spp.
- *Klebsiella* spp.
- *Neisseria* spp.

- *Proteus* spp.
- *Pseudomonas* spp. including *Pseudomonas aeruginosa*.

Ophthalmic Use :

NEOSPORIN ANTIBIOTIC OINTMENT is a bactericidal preparation, active *in vitro* against the majority of bacterial pathogens associated with ocular infections. The range of activity includes:

Gram-positive:
- *Staphylococcus aureus*
- *Staphylococcus epidermidis*
- *Streptococcus pneumoniae (pneumococcus)*
- *Streptococcus pyogenes*
- *Enterococcus-faecalis*
- *Viridans streptococcus*

Gram-negative:-
- *Enterobacter* spp.
- *Escherichia coli*
- *Haemophilus* spp.
- *Klebsiella* spp.
- *Neisseria* spp.
- *Pseudomonas* spp., including *Pseudomonas aeruginosa*
- *Proteus* spp.

5.3 Pharmacokinetic Properties

Neomycin Sulphate : Absorption through skin is limited. Topical application of Neomycin in petrolatum does not result in detectable drug concentrations in either serum or urine.

6. NONCLINICAL PROPERTIES

No relevant data.

7. DESCRIPTION

Ointment (for topical and ophthalmic use).

NEOSPORIN SKIN OINTMENT (for skin use)

Each gram contains:
Polymyxin B Sulphate I.P. equivalent to Polymyxin B 5000 units
Bacitracin Zinc I.P. equivalent to Bacitracin 400 units
Neomycin Sulphate I.P. equivalent to Neomycin 3400 units

NEOSPORIN ANTIBIOTIC OINTMENT (for skin and ophthalmic use)
(sterilized by gamma radiation)

Each gram contains:
Polymyxin B Sulphate IP equivalent to Polymyxin B 5000 units

Bacitracin Zinc IP equivalent to Bacitracin *400 units*
Neomycin Sulphate IP equivalent to Neomycin *3400 units*

List of Excipients

White Soft Paraffin.

8. PHARMACEUTICAL PARTICULARS

8.1 Incompatibilities

No incompatibilities have been identified.

8.2 Shelf-Life

The expiry date is indicated on the label and packaging.

Ophthalmic Use :

Discard within ONE MONTH of first opening the tube.

8.3 Packaging Information

Aluminium tube in a carton.

All presentations may not be marketed in India.

8.4 Storage and Handling Information

NEOSPORIN SKIN OINTMENT (for topical use)

Store at temperature below 25°C. Do not freeze.

Not for use in eyes.

Keep out of reach of children.

FOR EXTERNAL USE ONLY.

NEOSPORIN ANTIBIOTIC OINTMENT (for skin and ophthalmic use)

Store at temperature not exceeding 30°C. Do not freeze.

Keep out of reach of children.

FOR EXTERNAL USE ONLY.

Dilution of *NEOSPORIN SKIN/ANTIBIOTIC OINTMENT* is not recommended; reduction of the antibiotic concentrations may reduce their therapeutic efficacy.

Use separate tubes for eye and skin infections.

Use within one month after opening the tube. Sterile until opened.

9. PATIENT COUNSELLING INFORMATION

Registered Medical Practitioners may counsel their patients (and/or their patient's caregiver as applicable) about the special warnings and precautions for use, drug interactions, undesirable effects, and any relevant contra-indications of *NEOSPORIN SKIN / ANTIBIOTIC OINTMENT*. Patients (and/or their patient's caregiver) may also be informed about posology, method of administration and storage/handling information as applicable.

10. DETAILS OF MANUFACTURER

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 Licence number is indicated on the label and packaging.

12. DATE OF REVISION

16-NOV-2022

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

Adapted from Neomycin-Polymyxin B- Bacitracin topical and opthalmic ointment GDS Version 11 dated 26 March 2020.