

Gentamicin Sulphate

Introduction: Gentamicin sulphate is a broad spectrum bactericidal antibiotic of the aminoglycoside group.

Mechanism of action: Aminoglycosides like Gentamicin "irreversibly" bind to specific 30S-subunit proteins and 16S rRNA. Specifically Gentamicin binds to four nucleotides of 16S rRNA and a single amino acid of protein S12. This interferes with decoding site in the vicinity of nucleotide 1400 in 16S rRNA of 30S subunit. This region interacts with the wobble base in the anticodon of tRNA. This leads to interference with the initiation complex, misreading of mRNA so incorrect amino acids are inserted into the polypeptide leading to nonfunctional or toxic peptides and the breakup of polysomes into nonfunctional monosomes.

Pharmacology: Gentamicin, a wide spectrum antibiotic provides highly effective topical treatment in primary and secondary bacterial infections of the skin. This product may clear infections that have not responded to other topical antibiotic agents. In impetigo contagiosa and other primary skin infections, treatment with a small amount of gentamicin ointment three to four times daily usually clears the lesions promptly. In secondary skin infections, the product facilitates the treatment of the underlying dermatosis by controlling the infection. Bacteria susceptible to the action of gentamicin include sensitive strains of streptococci (group A beta-hemolytic, alpha-hemolytic), *Staphylococcus aureus* (coagulase positive, coagulase negative, and some penicillinase-producing strains), and the gram-negative bacteria, *Pseudomonas aeruginosa*, *Aerobacter aerogens*, *Escherichia coli*, *Proteus vulgaris* and *Klebsiella pneumoniae*.

Indications: Gentamicin is used in the treatment of:

- septicemia and neonatal sepsis,
- severe, complicated and recurring infections of the urinary tract, the lower respiratory tract and the gastrointestinal tract (including peritonitis),
- infections of the skin, bones and soft tissues,
- burn wounds,
- infections of the central nervous system (including meningitis).

Dosage: A small amount of gentamicin ointment should be applied gently to lesions three to four times a day. The area treated may be covered with gauze dressing if desired. In impetigo contagiosa, the crusts should be removed before application of gentamicin ointment to permit maximum contact between the antibiotic and the infection. Care should be exercised to avoid further contamination of the infected skin. Infected stasis ulcers have responded well to gentamicin under gelatin packing.

Side effects:

- an allergic reaction (shortness of breath; closing of the throat; hives; swelling of the lips, face, or tongue; rash; or fainting);
- little or no urine;
- decreased hearing or ringing in the ears;
- dizziness, clumsiness, or unsteadiness;
- numbness, skin tingling, muscle twitching, or seizures; or
- severe watery diarrhea and abdominal cramps.

Other, less serious side effects may be more likely to occur. Continue to take gentamicin and talk to your doctor if you experience

- increased thirst;
- loss of appetite;
- nausea or vomiting;
- Rashes.

Precautions: Use of topical antibiotics occasionally allows overgrowth of nonsusceptible organisms, including fungi. If this occurs, or if irritation, sensitization, or superinfection develops, treatment with gentamicin should be discontinued and appropriate therapy instituted.

Contraindications: This product, gentamicin ointment is contraindicated in individuals with a history of sensitivity reactions to any of its components

How supplied: Customized as per request.