SUMMARY OF PRODUCT CHARACTERISTICS

1.0 Product Information (Summary of Product Characteristics)

1.1 Name of the Finished Pharmaceutical product:
BAXIM-1000
Cefotaxime Sodium USP

1.2 Strength:
1.0 g

1.3 Pharmaceutical Dosage Form:
Dry powder for injection

2. Qualitative and quantitative composition:
Each vial contains:
Cefotaxime Sodium USP
Eq. to Cefotaxime ..... 1 g

3. Pharmaceutical Form:
Dry Powder for Injection.

4. CLINICAL PARTICULARS

4.1 THERAPEUTIC INDICATIONS

1. Cefotaxime is indicated in the treatment of serious infections, either before the infecting organism has been identified or when caused by bacteria of established sensitivity, including:

a. Osteomyelitis,

b. Septicemia,

c. Bacterial endocarditis,

d. meningitis, and

e. peritonitis and other serious bacterial infections suitable for parenteral antibiotic therapy.

2. Cefotaxime may be used for pre-operative prophylaxis in patients undergoing surgical procedures, that may be classified as contaminated or potentially so.

4.2 POSOLOGY AND METHOD OF ADMINISTRATION

Dosage, route and frequency of administration should be determined by severity of infection, sensitivity of causative organisms and condition of the patient.

Adults

The recommended dosage for mild to moderate infections is 1g 12 hourly. However, dosage may be

varied according to the severity of the infection, sensitivity of causative organisms and condition of the patient. Therapy may be initiated before the results of sensitivity tests are known.

In severe infections dosage may be increased up to 12g daily given in three or four divided doses. For infections caused by sensitive Pseudomonas species daily doses of greater than 6g will usually be required.

Children:

The usual dosage range is 100-150mg/kg/day in two to four divided doses. However, in very severe infection doses of up to 200mg/kg/day may be required.

Neonates:

The recommended dosage is 50mg/kg/day in two to four divided doses. In severe infections 150-200mg/kg/day, in divided doses, have been given.

Dose in renal impairment:

becomes 0.5 g twelve hourly, 1 g eight hourly becomes 0.5 g eight hourly, 2 g eight

hourly becomes 1g eight hourly etc. As in all other patients, dosage may require further adjustment according to the course of the infection and the general condition of the patient.

Dosage in hepatic impairment:

No dosage adjustment is required.

Method of Administration:

Intravenous and Intramuscular Administration: Reconstitute Cefotaxime with Water for Injections. Shake well until dissolved and then withdraw the entire contents of the vial into the syringe.
For intermittent I.V. injections, the solution must be injected over a period of 3 to 5 minutes.

4.3 CONTRAINDICATIONS

Hypersensitivity to cephalosporin:

In patients with a history of hypersensitivity to Cefotaxime and/or to any component of Cefotaxime for Injection USP1g, a penicillin or to any other type of beta-lactam drug.

For pharmaceutical forms containing lidocaine:

- known history of hypersensitivity to lidocaine or other local anesthetics of the amide type
- non-paced heart block
- severe heart failure
- administration by the intravenous route
- infants aged less than 30 months of age.

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE

As with other antibiotics, the use of Cefotaxime, especially if prolonged, may result in overgrowth of non-susceptible organisms, such as Enterococcus spp., Candida, Pseudomonas aeruginosa. Repeated

evaluation of the condition of the patient is essential. If super infection occurs during treatment with Cefotaxime, appropriate measures should be taken and specific anti-microbial therapy should be instituted if considered clinically necessary.

Anaphylactic reactions: Preliminary enquiry about hypersensitivity to penicillin and other β-Lactam antibiotics is necessary before prescribing cephalosporin since cross allergy occurs in 5–10% of cases. The use of Cefotaxime is strictly contra-indicated in subjects with a previous history of immediate-type hypersensitivity to cephalosporin. Since cross allergy exists between penicillin and cephalosporin, use of the latter should be undertaken with extreme caution in penicillin sensitive subjects. Serious, including fatal hypersensitivity reactions have been reported in patients receiving Cefotaxime. If a hypersensitivity reaction occurs, treatment must be stopped.

Serious bullous reactions: Cases of serious bullous skin reactions like Stevens-Johnson syndrome or toxic epidermal necrolysis have been reported with Cefotaxime.

Patients should be advised to contact their doctor immediately prior to continuing treatment if skin and/or mucosal reactions occur.

Patients with renal insufficiency: The dosage should be modified according to the creatinine clearance calculated. Patients with severe renal dysfunction should be placed on the dosage schedule recommended under “Posology and Method of Administration”.

Caution should be exercised if Cefotaxime is administered together with aminoglycosides or other nephrotoxic drugs. Renal function must be monitored in these patients, the elderly, and those with pre-existing renal impairment.

Hematological reactions: Leukopenia, neutropenia, and more rarely, agranulocytosis may develop during treatment with Cefotaxime, particularly if given over long periods.

For treatment courses lasting longer than 7-10 days, the blood white cell count should be monitored and treatment stopped in the event of neutropenia.
Some cases of eosinophilia and thrombocytopenia, rapidly reversible on stopping treatment, have been reported. Cases of hemolytic anemia have also been reported.
Sodium intake: The sodium content of Cefotaxime(2.09mmol/g) should be taken into account when prescribing to patients requiring sodium restriction.
Clostridium difficile associated disease (e.g. pseudomembranous colitis): Cefotaxime may predispose patients to pseudomembranous colitis. Although any antibiotic may predispose to pseudomembranous colitis, the risk is higher with broad spectrum drugs, such as cephalosporin. This side effect, which may occur more frequently in patients receiving higher doses for prolonged periods, should be considered as potentially serious.
Diarrhea, particularly if severe and/or persistent, occurring during treatment or in the initial weeks following treatment, may be symptomatic of Clostridium difficile associated disease (CDAD). CDAD may range in severity from mild to life threatening, the most severe form of which is pseudo-membranous colitis.

The diagnosis of this rare but possibly fatal condition can be confirmed by endoscopy and/or histology. It is important to consider this diagnosis in patients who present with diarrhea during or subsequent to the administration of Cefotaxime.

If a diagnosis of pseudomembranous colitis is suspected, Cefotaxime should be stopped immediately and appropriate specific antibody therapy should be started without delay.

Clostridium difficile associated disease can be favored by fecal stasis.

Medicinal products that inhibit peristalsis should not be given.

Neurotoxicity: High doses of beta-lactam antibiotics, including Cefotaxime, particularly in patients with renal insufficiency, may result in encephalopathy (e.g. impairment of consciousness, abnormal movements and convulsions).

Patients should be advised to contact their doctor immediately prior to continuing treatment if such reactions occur.

Effects on Laboratory Tests: As with other cephalosporin a positive Coomb's test has been found in some patients treated with Cefotaxime. This phenomenon can interfere with the cross-matching of blood.

Urinary glucose testing with non-specific reducing agents may yield false-positive results. This phenomenon is not seen when a glucose-oxidase specific method is used.

4.5 DRUG INTERACTIONS

Aminoglycoside antibiotics and diuretics: As with other cephalosporin, Cefotaxime may potentiate the nephrotoxic effects of nephrotoxic drugs such as aminoglycosides or potent diuretics (e.g. furosemide). Renal function must be monitored.

Uricosurics: Probenecid interferes with renal tubular transfer of Cefotaxime, thereby increasing Cefotaxime exposure about 2-fold and reducing renal clearance to about half at therapeutic doses. Due to the large therapeutic index of Cefotaxime, no dosage adjustment is needed in patients with normal renal function. Dosage adjustment may be needed in patients with renal impairment.

Interference with Laboratory Tests: A false positive Coombs test may be seen during treatment with cephalosporin. This phenomenon may occur during treatment with Cefotaxime and can interfere with blood cross-matching.

A false positive reaction to urinary glucose may occur with copper reduction methods (Benedict's, Fehling's or Clinitest) but not with the use of specific glucose oxidase methods.

There is a potential for mezlocillin and azlocillin to reduce the clearance of Cefotaxime.

4.6 PREGNANCY AND LACTATION

Pregnancy: The safety of Cefotaxime has not been established in human pregnancy.

Animal studies do not indicate direct or indirect harmful effects with respect to reproductive toxicity. There are, however, no adequate and well controlled studies in pregnant women.

Cefotaxime crosses the placental barrier. Therefore, Cefotaxime should not be used during pregnancy unless the anticipated benefit outweighs any potential risks.

Lactation: Cefotaxime passes into human breast milk in small amounts and is usually compatible with

breast feeding, but careful monitoring of the infant is recommended.

Effects on the physiological intestinal flora of the breast-fed infant leading to diarrhea, colonization by yeast-like fungi, and sensitization of the infant cannot be excluded.

Therefore, a decision must be made whether to discontinue breast-feeding or to discontinue therapy taking into account the benefit of breast-feeding for the child and the benefit of therapy for the woman.

4.7 EFFECTS ON ABILITY TO DRIVE AND USE MACHINES

Cefotaxime has been associated with dizziness, which may affect the ability to drive or operate machinery.
There is no evidence that Cefotaxime directly impairs the ability to drive or to operate machines. High doses of Cefotaxime, particularly in patients with renal insufficiency, may cause encephalopathy (e.g. impairment of consciousness, abnormal movements and convulsions). Patients should be advised not to drive or operate machinery if any such symptoms occur.

4.8 UNDESIRABLE EFFECTS

System organ class	**Very common (≥ 1/10)**	**Uncommon (≥ 1/1,000 to <1/100)**	**Common (≥ 1/100 to <1/10)**	**Rare (≥1/10,000 to<1/1,000)**	**Very rare (<1/10,000)**	**Not known(cannot be estimated from available data)***
Infections and infestations						Superinfection
Blood and the lymphatic system disorders		Leukopenia Eosinophilia Thrombocytopenia				Neutropenia Granulocytopenia Agranulocytosis Hemolytic anemia
Immune system disorders		Jarisch-Herxheimer reaction				Anaphylactic reactions Angioedema Bronchospasm Anaphylactic shock

Nervous system disorders		Convulsions				Headache Dizziness Encephalopathy (e.g. impairment of consciousness, abnormal movements)
Cardiac disorders						Arrhythmia following rapid bolus infusion through central venous catheter
Gastrointestinal disorders		Diarrhea				Nausea Vomiting Abdominal pain Pseudomembranous colitis
Hepatic-biliary disorders		Increase in liver enzymes (ALAT, ASAT, LDH, gamma-GT and/or alkaline phosphatise) and/or bilirubin				Hepatitis* (sometimes with jaundice)
Skin and subcutaneous disorders		Rash Pruritus Urticaria Drug fever				Erythema multiform Stevens-Johnson syndrome Toxic epidermal necrolysis
Renal and Urinary disorders		Decrease in renal function/increase of creatinine (particularly when co-prescribed with aminoglycosides)				Interstitial nephritis Candidiasis

General disorders and administration site conditions	For IM formulation: Pain at the injection site	Fever Inflammatory reactions at the injection site, including phlebitis / thrombophlebitis				For IM formulations (since the solvent contains lidocaine): Systemic reactions to lidocaine

*** post marketing experience**

Jarisch-Herxheimer reaction

For the treatment of borreliosis, a Jarisch-Herxheimer reaction may develop during the first days of treatment.

The occurrence of one or more of the following symptoms has been reported after several week's treatments of borreliosis: skin rash, itching, fever, leucopenia, increase in liver enzymes, difficulty of breathing, joint discomfort**.**

Hepatobiliary disorders

Increase in liver enzymes (ALAT, ASAT, LDH, gamma-GT and/or alkaline phosphatase) and/or bilirubin have been observed. These laboratory abnormalities may rarely exceed twice the upper limit of the normal range and elicit a pattern of liver injury, usually cholesteric and most often asymptomatic.

Reporting of suspected adverse reaction: Healthcare professional are requested to report any suspected adverse reaction to the National Regulatory Agents.

4.9 OVERDOSE

Symptoms of overdose may largely correspond to the profile of side effects.

There is a risk of reversible encephalopathy in cases of administration of high doses of β– lactam antibiotics including Cefotaxime.

In case of overdose, Cefotaxime must be discontinued, and supportive treatment initiated, which includes measures to accelerate elimination, and symptomatic treatment of adverse reactions (e.g. convulsions).

No specific antidote exists. Serum levels of Cefotaxime may be reduced by peritoneal dialysis or haemodialysis

5. PHARMACOLOGICAL PROPERTIES

5.1 PHARMACODYNAMIC PROPERTIES

The bactericidal activity of Cefotaxime Sodium results from inhibition of cell wall synthesis.Cefotaxime Sodium has in vitro activity against a wider range of gram –positive and gram – negative

organism. Cefotaxime has a high degree of stability in the presence of beta lactamases, of gram negative and gram positive bacteria. Cefotaxime is usually sensitive to the following organism in vitro:

Gram – positive Bacteria

Staphylococci, including coagulase – positive, coagulase – negative and penicillinase producing strains, Beta- hemolytic and other streptococci such as Streptococcus pneumonia, and Strep. Viridians. Many strains of enterococci are relatively resistant.

Gram – negative Bacteria

Escherichia coli, Hemophilus influenza, including ampicillin resistant strains, Klebsiella spp., Proteus spp., both indole positive and indole negative, Enterobacter spp., Neisseria spp., including B-lactamases producing strains of N. gonorrhea, Salmonella spp., including Salmonella typhi., Shigella spp., Providencia spp. And Citrobacter spp.

Some strains of Pseudomonas aeruginosa are susceptible to Cefotaxime sodium.

Anaerobes:

Bacteroides spp., including some strains of B. fragillis, Clostridium spp. (Most strains of C. diffficile are resistant), Peptococcus spp., Peptostreptococcus spp., and Fusobacterium spp.

There is in vitro evidence of synergy between Cefotaxime and aminoglycoside antibiotics such as gentamycin, against some species of gram-negative bacteria including some strain of Pseudomonas. Infection with Pseudomonas aeruginosa may require concomitant therapy with other antibiotics effective against Pseudomonas.

5.2 PHARMACOKINETIC PROPERTIES

After Intramuscular injection of the equivalent of 0.5 g and 1 g of Cefotaxime mean peak serum concentrations of about 11.9 and 25 µg per ml respectively have been reported after about 30 minutes. About 40% is reported to be bound to plasma protein. The elimination half-life of Cefotaxime is about 1.2 hours.

Immediately after the intravenous injection of 0.5 g and 1 g of Cefotaxime mean peak serum concentration of 38 and102 µg per ml, respectively have been achieved with concentration ranging from 1 to 3 per ml after 4 hours.

Cefotaxime is widely distributed in body tissues and fluids; therapeutic concentration has been achieved in the cerebrospinal fluid when the meningitis is inflamed.

It diffuses across the placenta and is excreted in the breast milk. Cefotaxime is particularly metabolized to desacetyl Cefotaxime which have some activity, to inactive metabolites.

Cefotaxime is eliminated mainly by the kidneys and about 40 to 60% of a dose has been recovered unchanged in the urine within 24 hours; a further 20% is excreted s the desacetyl metabolite. Tubular secretion is blocked by probenecid. Cefotaxime is also excreted in the bile.

6. PHARMACEUTICAL PARTICULARS

6.1 LIST OF EXCIPIENTS

None

6.2 SHELF LIFE

24 Months

6.3 SPECIAL PRECAUTIONS FOR STORAGE

Store below 30ºC. Protect from light and moisture.

KEEP OUT OF REACH OF CHILDREN

6.4 NATURE AND CONTENTS OF CONTAINER

One FFS pack of 10 ml Sterilized Water for Injections B.P. is packed with vial.

6.5 SPECIAL PRECAUTIONS FOR DISPOSAL

Not Applicable

7. Product distribution Category

“Prescription only Medicine”

8. Marketing authorization holder

Not applicable

9. Marketing authorization number(s)

CTD12057

10. Date of first authorization/renewal of the authorization

22/07/2026

11. Date of revision of the text

22/07/2026