Cefoperazone

Introduction: cefoperazone, formerly known as cefoperazone sodium, is a sterile, semisynthetic, broad-spectrum, parenteral cephalosporin antibiotic for intravenous or intramuscular administration.

Mechanism of action: Mode of action of Ceftriaxone remains the same as all Cephalosporins, i.e. it interferes with cell wall synthesis of multiplying bacteria. Ceftriaxone induces filamentation in Escherichia coli and Pseudomonas aeruginosa, suggesting that it binds primarily to PBP 3 which is responsible for formation of cross-wall or septum of dividing bacilli.

Indication: cefoperazone is indicated for the treatment of the following infections when caused by susceptible organisms:
Respiratory Tract Infections caused by *S. pneumoniae, H. influenzae, S. aureus*(penicillinase and non-penicillinase producing strains), *S. pyogenes* Efficacy of this organism in this organ system was studied in fewer than 10 infections. (Group A beta-hemolytic streptococci), *P. aeruginosa, Klebsiella pneumoniae, E. coli, Proteus mirabilis,* and *Enterobacter* species.
Peritonitis and Other Intra-abdominal Infections caused by *E. coli, P. aeruginosa,* and anaerobic gram-negative bacilli (including *Bacteroides fragilis*).
Bacterial Septicemia caused by *S. pneumoniae, S. agalactiae, S. aureus, Pseudomonas aeruginosa, E. coli, Klebsiella* spp., *Klebsiella pneumoniae, Proteus* species (indole-positive and indole-negative), *Clostridium* spp. and anaerobic gram-positive cocci.
Infections of the Skin and Skin Structures caused by *S. aureus* (penicillinase and non-penicillinase producing strains), *S. pyogenes*, and *P. aeruginosa.*
Pelvic Inflammatory Disease, Endometritis, and Other Infections of the Female Genital Tract caused by *N. gonorrhoeae, S. epidermidis, S. agalactiae, E. coli, Clostridium* spp.,*Bacteroides* species (including *Bacteroides fragilis*), and anaerobic gram-positive cocci.
Urinary Tract Infections caused by *Escherichia coli* and *Pseudomonas aeruginosa*.

Dosage: I.M. or I.V.: Adults: 2-4 g/day in two equally divided doses given 12 hours apart. In severe infections doses up to 16 g/day have been given without adverse effects. Infants and children: 50 to 200 mg/kg/day in two equally divided doses given 12 hours apart. Up to 300 mg/kg/day has been used in severe infections including bacterial meningitis. In severe liver or biliary diseases, the max, daily dose is 4g. and in liver and kidney impairment the max. dose is 2g. For surgical prophylaxis: 1 or 2g should be given I.V. 30-90 minutes before surgery. The dose may be repeated every 12 hours for up to 72hours.

Side effects: Hypersensitivity: As with all cephalosporins, hypersensitivity manifested by skin reactions (1 patient in 45), drug fever (1 in 260), or a change in Coombs' test (1 in 60) has been reported. These reactions are more likely to occur in patients with a history of allergies, particularly to penicillin.

Hematology: As with other beta-lactam antibiotics, reversible neutropenia may occur with prolonged administration. Slight decreases in neutrophil count (1 patient in 50) have been reported. Decreased hemoglobins (1 in 20) or hematocrits (1 in 20) have been reported, which is consistent with published literature on other cephalosporins. Transient eosinophilia has occurred in 1 patient in 10.
Hepatic: As with other antibiotics that achieve high bile levels, mild transient elevations of liver function enzymes have been observed in 5–10% of the patients receiving Cefoperazone therapy. The relevance of these findings, which were not accompanied by overt signs or symptoms of hepatic dysfunction, has not been established.
Gastrointestinal: Most of these experiences have been mild or moderate in severity and self-limiting in nature. In all cases, these symptoms responded to symptomatic therapy or ceased when cefoperazone therapy was stopped. Nausea and vomiting have been reported rarely.

Precautions: cefoperazone is extensively excreted in bile. The serum half-life of cefoperazone is increased 2–4 fold in patients with hepatic disease and/or biliary obstruction. In general, total daily dosage above 4 g should not be necessary in such patients. If higher dosages are used, serum concentrations should be monitored. Because renal excretion is not the main route of elimination of cefoperazone, patients with renal failure require no adjustment in dosage when usual doses are administered. When high doses of cefoperazone are used, concentrations of drug in the serum should be monitored periodically. If evidence of accumulation exists, dosage should be decreased accordingly.
Usage in Pregnancy: Pregnancy Category B: There are no adequate and well controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.
Usage in Nursing Mothers: Only low concentrations of cefoperazone are excreted in human milk. Although cefoperazone passes poorly into breast milk of nursing mothers, caution should be exercised when cefoperazone is administered to a nursing woman.
Pediatric Use: Safety and effectiveness in children have not been established. For information concerning testicular changes in prepubertal rats.
Geriatric Use: In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

Contraindications: cefoperazone is contraindicated in patients with known allergy to the cephalosporin-class of antibiotics.

How supplied: Customized as per request.