Cefprozil

Antibiotic Class:
Second-Generation Cephalosporin (true 2nd generation cephalosporin)

Antimicrobial Spectrum:
Staphylococcus aureus (methicillin susceptible), Coagulase negative Staphylococci, *Streptococcus pneumoniae* (penicillin susceptible), *Streptococcus spp. Haemophilus influenzae, Moraxella catarrhalis, Neisseria meningitides, Neisseria gonorrhoeae*

Mechanism of Action:
Cephalosporins exert bactericidal activity by interfering with bacterial cell wall synthesis and inhibiting cross-linking of the peptidoglycan. The cephalosporins are also thought to play a role in the activation of bacterical cell autolysins which may contribute to bacterial cell lysis.

Pharmacodynamics:
Cephalosporins exhibit time-dependent killing (T > MIC)

Pharmacokinetics:
Dose of 500mg: Cmax: 17.3 mcg/L; Tmax: 0.7 hours; Half-life: 0.6 hours; Table 10

Adverse Effects:
Hypersensitivity: Maculopapular rash, Urticaria, Pruritis, Anaphylaxis/angioedema, eosinophilia
Hematologic: Neutropenia, Leukopenia, Thrombocytopenia
GI: Diarrhea, C. difficile disease
Renal: Interstitial nephritis
Table 14

Dosage:
PO: 250mg, 500mg tablet
Powder for Suspension: 125mg/5mL, 250mg/5mL

Dosing in adults:
Acute exacerbation of chronic bronchitis: 500mg PO q12h x 10 days
Uncomplicated skin and/or subcutaneous tissue infection: 250mg PO q12h, or 500mg PO q12-24 h x 10 days
Pharyngitis: 500 mg PO q24h x 10 days
Sinusitis, acute: 250-500mg PO q12h x 10 days

Dosing in pediatrics:
15-30mg/kg/day divided PO q12h

Disease state based dosing:
Renal failure: CrCl < 30 mL/min, 50% of standard dose at same interval
Hepatic failure: No dosing changes recommended at this time.

Contraindications/Warnings/Precautions:
Precautions: hypersensitivity to penicillins (cross-reactivity 5-10%), history of gastrointestinal disease, particularly colitis, renal impairment

Drug Interactions:
Live Typhoid Vaccine: decreased immunological response to the typhoid vaccine
Probenecid: increased serum cefprozil levels

Pregnancy:
Category B: No evidence of risk in humans but studies inadequate.

Monitoring Requirements:
Therapeutic: Culture and sensitivities, serum levels, signs and symptoms of infection, white blood cell count
Toxic: Urinalysis, BUN, SCr, AST and ALT, skin rash, Neutropenia and leukopenia, Prothrombin time in patients with renal or hepatic impairment or poor nutritional state, as well as patients receiving a protracted course of antimicrobial therapy, and patients previously stabilized on anticoagulant therapy.

Brand names/Manufacturer: Cefzil®/Bristol-Myers Squibb