Cefadroxil

**Antibiotic Class:**
First-Generation Cephalosporin

**Antimicrobial Spectrum:**
Gram-positive bacteria: Methicillin-susceptible *Staphylococcus aureus* (MSSA), coagulase – negative *Staphylococci*, penicillin-susceptible *Streptococcus pneumoniae, Streptococci spp.* 
Gram-negative bacteria: *Moraxella catarrhalis, Escherichia coli, Klebsiella pneumoniae, Proteus mirabilis*

**Mechanism of Action:**
Cephalosporins exert bactericidal activity by interfering with the later stages of bacterial cell wall synthesis through inactivation of one or more penicillin-binding proteins and inhibiting cross-linking of the peptidoglycan structure. The cephalosporins are also thought to play a role in the activation of bacterial cell autolysins which may contribute to bacterial cell lysis.

**Pharmacodynamics:**
Cephalosporins produce time-dependent killing

**Pharmacokinetics:**
500mg dose; Cmax: 16.2 mcg/ml; Half-life: 1.9 mcg/ml; Protein binding: 18-20%; Table 10

**Adverse Effects:**
Hematologic: Neutropenia, leukopenia, eosinophilia, thrombocytopenia, thrombocytosis, impaired platelet aggregation 
Dermatologic: Rash (maculopapular), puritis, urticaria 
Gastrointestinal: Diarrhea 
Hepatic: Abnormal liver function tests 
Renal: Interstitial nephritis 
Other: Anaphylaxis

**Dosage:**
PO: 500mg capsule, 1gram tablet  
125mg/5ml, 250mg/5ml, 500mg/5ml powder for reconstitution (suspension)

Adult doses: 0.5-1gram PO q12-24h  
Pharyngitis/tonsillitis: 1gram PO q24h or divided q12h x 10 days  
Skin/skin structure infection: 1gram PO q24h or divided q12h  
Urinary tract infection (uncomplicated): 1-2grams PO q24h or divided q12h  
Urinary tract infection (complicated): 1gram PO q12h

Pediatric doses: 30mg/kg/day divided q12-24h  
Impetigo: 30 mg/kg PO q24h or divided q12h, maximum 2grams per day  
Pharyngitis/tonsillitis: 30 mg/kg PO q24h or divided q12h x 10 days, maximum 2grams per day  
Skin/skin structure infection: 30 mg/kg/day PO divided q12h, maximum 2grams per day
Urinary tract infection: 30 mg/kg/day PO divided q12h, maximum 2 grams per day

Disease state based dosing:
Renal failure: 
   CrCl greater than 50 mL/min, usual dose and interval
   CrCl 25-50 mL/min, 500 mg every 12 hr
   CrCl 10-25 mL/min, 500 mg every 24 hr
   CrCl less than 10 mL/min, 500 mg every 36 hr
Hepatic failure: No dosing changes recommended at this time.

Contraindications/Warnings/Precautions:
Contraindications: Hypersensitivity to cephalosporins
Precautions: hypersensitivity to penicillins

Drug Interactions:
Live Typhoid Vaccine - decreased immunological response to the typhoid vaccine

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

Monitoring Requirements:
Therapeutic: Culture and sensitivities, signs and symptoms of infection (e.g. fever, WBC)
Toxic: Urinalysis, BUN, SCr, AST and ALT, neutropenia and leukopenia