Cefdinir

**Antibiotic Class:**
Third-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*, *Enterobacteriaceae*, *E. coli*

**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 bacterial cell autolysins which may contribute to bacterial cell lysis.

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

**Pharmacokinetics:**
Dose of 600mg: Cmax: 2.4 mcg/L; Tmax: 3.2 hour; Half-life: 1.5 hours; Table 10

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

**Dosage:**
- PO: 300mg capsule
- Powder for Reconstitution: 125mg/5mL, 250mg/5mL

Dosing in adults:
- Acute exacerbation of chronic bronchitis: 300mg PO q12h x 5-10 days OR 600mg PO q24h x 10 days
- Community acquired pneumonia: 300mg PO q12h x 10 days
- Acute maxillary sinusitis: 300mg PO q12h OR 600mg PO q24h x 10 days
- Pharyngitis: 300 mg PO q12h x 5-10 days OR 600mg PO q24h x 10 days

Dosing in pediatrics:
- 7-14mg/kg/day divided q12-24h
  Table 12

Disease state based dosing:
- Renal failure: adults: CrCl < 30mL/min, 300mg q24h
children: CrCl < 30mL/min/1.73 m², 7 mg/kg q24h (up to 300 mg/day)
Hepatic failure: No dosing changes recommended at this time.

**Contraindications/Warnings/Precautions:**
Precautions: hypersensitivity to penicillins, history of gastrointestinal disease, particularly colitis, renal impairment, bleeding disorders (like other cephalosporins, cefdinir may be capable of producing hypoprothrombinemia)

**Drug Interactions:**
Antacids: decreased cefdinir efficacy
Live Typhoid Vaccine: decreased immunological response to the typhoid vaccine
Iron: decreased cefdinir efficacy
Probenecid: increased cefdinir bioavailability

**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:** Omnicef®/Abbott