Cefotaxime:

Class: Antibiotic

Indications:

Treatment of susceptible organisms in lower respiratory tract, skin and skin structure, bone and joint, urinary tract, intra-abdominal, gynecologic as well as bacteremia/septicemia, and documented or suspected central nervous system infections (eg, meningitis). Active against most gram-negative bacilli (not *Pseudomonas* spp) and gram-positive cocci (not enterococcus). Active against many penicillin-resistant pneumococci.

Available dosage form in the hospital: 1GM VIAL, 500MG VIAL.

Trade Names:

Dosage:

-Usual dosage range: I.M., I.V.: 1-2 g every 4-12 hours

-*Uncomplicated infections:* I.M., I.V.: 1 g every 12 hours

-*Moderate-to-severe infections:* I.M., I.V.: 1-2 g every 8 hours

-*Life-threatening infections:* I.V.: 2 g every 4 hours

-Acute bacterial rhinosinusitis, severe infection requiring hospitalization: I.V.: 2 g every 4-6 hours for 5-7 days (Chow, 2012)

-Arthritis (septic): I.V.: 1 g every 8 hours

-Brain abscess, meningitis: I.V.: 2 g every 4-6 hours in combination with other antimicrobial therapy as warranted (Kowlessar, 2006; Tunkel, 2004)

-Caesarean section: I.M., I.V.: 1 g as soon as the umbilical cord is clamped, then 1 g at 6- and 12-hour intervals

-Complicated community-acquired intra-abdominal infection of mild-to-moderate severity, including hepatic abscess (in combination with metronidazole): I.V.: 1-2 g every 6 -8 hours for 4-7 days (provided source controlled). **Note:** For severe infections consider other antimicrobial agents (Bradley, 1987; Kim, 2010; Solomkin, 2010).

-Gonorrhea (CDC, 2010) (as an alternative to ceftriaxone):

-*Uncomplicated gonorrhea of the cervix, urethra, or rectum (unlabeled regimen):* I.M.: 0.5 g as a single dose in combination with oral azithromycin (preferred) or oral doxycycline (alternative to preferred)

Note: May also administer 1 g as a single dose for rectal gonorrhea in adult males (per the manufacturer)

-*Disseminated:* I.V.: 1 g every 8 hours continue for 24-48 hrs after improvement begins then switch to oral therapy. Total duration of therapy at least 7 days

-Lyme disease (as an alternative to ceftriaxone):

-*Cardiac manifestations:* I.V.: 2 g every 8 hours for 14-21 days (Wormser, 2006)

-*CNS manifestations:* I.V.: 2 g every 8 hours for 10-28 days (Halperin, 2007; Wormser, 2006)

-Peritonitis (spontaneous): I.V.: 2 g every 8 hours, unless life-threatening then 2 g every 4 hours (Gilbert, 2011; Runyon, 2009)

-Sepsis: I.V.: 2 g every 6-8 hours

-Skin and soft tissue:

-*Bite wounds (animal):* I.V.: 2 g every 6 hours

-*Mixed, necrotizing:* I.V.: 2 g every 6 hours, with metronidazole or clindamycin (Stevens, 2005)

- Renal Impairment:

-*Manufacturer's labeling:* **Note:** Renal function may be estimated using Cockcroft-Gault formula for dosage adjustment purposes.

Cl_{cr} <20 mL/minute/1.73 m^2: Dose should be decreased by 50%.

-Adults: The following dosage adjustments have been used by some clinicians (Aronoff, 2007; Heintz, 2009; Trotman, 2005):

-GFR >50 mL/minute: Administer every 6 hours (Aronoff, 2007)

-GFR 10-50 mL/minute: Administer every 6-12 hours (Aronoff, 2007)

-GFR <10 mL/minute: Administer every 24 hours **or** decrease the dose by 50% (and administer at usual intervals) (Aronoff, 2007)

-Intermittent hemodialysis (IHD): Administer 1-2 g every 24 hours (on dialysis days, administer after hemodialysis). **Note:** Dosing dependent on the assumption of 3 times/week, complete IHD sessions (Heintz, 2009).

-Peritoneal dialysis (PD): 1 g every 24 hours (Aronoff, 2007)

-Continuous renal replacement therapy (CRRT) (Heintz, 2009; Trotman, 2005): Drug clearance is highly dependent on the method of renal replacement, filter type, and flow rate. Appropriate dosing requires close monitoring of pharmacologic response, signs of adverse reactions due to drug accumulation, as well as drug concentrations in relation to target trough (if appropriate). The following are general recommendations only (based on dialysate flow/ultrafiltration rates of 1-2 L/hour and minimal residual renal function) and should not supersede clinical judgment:

-CVVH: 1-2 g every 8-12 hours

-CVVHD: 1-2 g every 8 hours

-CVVHDF: 1-2 g every 6-8 hours

Common side effect: Pruritus, rash, Colitis, diarrhea, nausea, vomiting.

Pregnancy Risk Factor: B