Cefazolin:

Class: Antibiotic.

Indications:

Treatment of respiratory tract, skin, genital, urinary tract, biliary tract, bone and joint infections, and septicemia due to susceptible gram-positive cocci (except*Enterococcus*); some gram-negative bacilli including *E. coli*, *Proteus*, and *Klebsiella* may be susceptible; surgical prophylaxis

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

Trade Names:

Dosage:

-Usual dosage range: I.M., I.V.: 1-1.5 g every 8 hours, depending on severity of infection; maximum: 12 g daily

-Cholecystitis, mild-to-moderate: I.V.: 1-2 g every 8 hours for 4-7 days (provided source controlled)

-Endocarditis due to MSSA (without prosthesis) (unlabeled use): I.V.: 2 g every 8 hours; Note: Recommended for penicillin-allergic (nonanaphylactoid) patients (Baddour, 2005)

-Group B streptococcus (neonatal prophylaxis): I.V.: 2 g once, then 1 g every 8 hours until delivery (CDC, 2010)

-Intra-abdominal infection, complicated, community-acquired, mild-to-moderate (in combination with metronidazole): I.V.: 1-2 g every 8 hours for 4-7 days (provided source controlled)

-Moderate-to-severe infections: I.V.: 500 mg to 1 g every 6-8 hours

-Mild infection with gram-positive cocci: I.V.: 250-500 mg every 8 hours

-Perioperative prophylaxis: I.M., I.V.: 1-2 g within 60 minutes prior to surgery (may repeat in 2-5 hours intraoperatively); followed by 500 mg to 1 g every 6-8 hours for 24 hours postoperatively

-*Cardiothoracic surgery:* 1 g (see "**Note**") initiated 30-60 minutes prior to surgery (usually at the time of anesthetic induction); repeat dose if the duration of operation exceeds 3 hours. May continue 1 g every 6 hours for 24-48 hours postoperatively (Edwards, 2006; Hillis, 2011). Single dose preoperative administration may be considered (Bucknell, 2000; Douglas, 2011; Edwards, 2006)

Note: For patients weighing >60 kg, the Society of Thoracic Surgeons recommends a preoperative dose of 2 g administered within 60 minutes of skin incision. If the surgical incision remains open in the operating room, follow with 1 g every 3-4 hours unless cardiopulmonary bypass is to be discontinued within 4 hours then delay administration (Engelman, 2007).

-*Cholecystectomy:* 1-2 g every 8 hours, discontinue within 24 hours unless infection outside gallbladder suspected

-*Total joint replacement:* 1 g 1 hour prior to the procedure

-Pneumococcal pneumonia: I.V.: 500 mg every 12 hours

-Prophylaxis against infective endocarditis (unlabeled use): I.M., I.V.: 1 g 30-60 minutes before procedure. Intramuscular injections should be avoided in patients who are receiving anticoagulant therapy. In these circumstances, orally administered regimens should be given whenever possible. Intravenously administered antibiotics should be used for patients who are unable to tolerate or absorb oral medications.

Note: American Heart Association (AHA) guidelines now recommend prophylaxis only in patients undergoing invasive procedures and in whom underlying cardiac conditions may predispose to a higher risk of adverse outcomes should infection occur. As of April 2007, routine prophylaxis for GI/GU procedures is no longer recommended by the AHA.

-Prosthetic joint infection, *Staphylococci* (oxacillin-susceptible): I.V.: 1-2 g every 8 hours for 2-6 weeks (in combination with rifampin) followed by oral antibiotic treatment and suppressive regimens (Osmon, 2013)

-Severe infection: I.V.: 1-1.5 g every 6 hours

-UTI (uncomplicated): I.M., I.V.: 1 g every 12 hours

Renal Impairment

-Cl_{cr} 35-54 mL/minute: Administer full dose in intervals of ≥8 hours

-Cl_{cr} 11-34 mL/minute: Administer 50% of usual dose every 12 hours

-Cl_{cr} ≤10 mL/minute: Administer 50% of usual dose every 18-24 hours

-Intermittent hemodialysis (IHD) (administer after hemodialysis on dialysis days): Dialyzable (20% to 50%): 500 mg to 1 g every 24 hours **or** use 1-2 g every 48-72 hours (Heintz, 2009) **or** 15-20 mg/kg (maximum dose: 2 g) after dialysis 3 times weekly (Ahern, 2003; Sowinski, 2001) **or** 2 g after dialysis if next dialysis expected in 48 hours or 3 g after dialysis if next dialysis is expected in 72 hours (Stryjewski, 2007).

Note: Dosing dependent on the assumption of 3 times weekly, complete IHD sessions.

-Peritoneal dialysis (PD): 500 mg every 12 hours

-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: Loading dose of 2 g followed by 1-2 g every 12 hours

-CVVHD/CVVHDF: Loading dose of 2 g followed by either 1 g every 8 hours **or** 2 g every 12 hours. **Note:** Dosage of 1 g every 8 hours results in similar steady-state concentrations as 2 g every 12 hours and is more cost effective (Heintz, 2009).

Common side effect: Fever, seizure, Rash, pruritus,Diarrhea, nausea, vomiting, abdominal Cramps.

Pregnancy Risk Factor: B