

## Ceftriaxone:

**Class:** Antibiotic

### **Indications:**

Treatment of lower respiratory tract infections, acute bacterial otitis media, skin and skin structure infections, bone and joint infections, intra-abdominal and urinary tract infections, pelvic inflammatory disease (PID), uncomplicated gonorrhea, bacterial septicemia, and meningitis; used in surgical prophylaxis

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

### **Trade Names:**

### **Dosage:**

- Usual dose: 1-2 g every 12-24 hours, depending on the type and severity of infection
- Acute bacterial rhinosinusitis, severe infection requiring hospitalization (unlabeled use): I.V.: 1-2 g every 12-24 hours for 5-7 days (Chow, 2012)
- Arthritis, septic (unlabeled use): I.V.: 1-2 g once daily
- Brain abscess (unlabeled use): I.V.: 2 g every 12 hours with metronidazole
- Cavernous sinus thrombosis (unlabeled use): I.V.: 2 g once daily with vancomycin or linezolid
- Chancroid (unlabeled use): I.M.: 250 mg as single dose (CDC, 2010)
- Chemoprophylaxis for high-risk contacts (close exposure to patients with invasive meningococcal disease) (unlabeled use): I.M.: 250 mg in a single dose
- Cholecystitis, mild-to-moderate: 1-2 g every 12-24 hours for 4-7 days (provided source controlled)
- Gonococcal infections:
  - Uncomplicated gonorrhea of the cervix, pharynx, urethra, or rectum (unlabeled regimen):* I.M.: 250 mg in a single dose with oral azithromycin (preferred) or oral doxycycline (alternative to preferred) (CDC, 2012)
  - Conjunctivitis, complicated (unlabeled use):* I.M.: 1 g in a single dose (CDC, 2010)
  - Disseminated (unlabeled use):* I.M., I.V.: 1 g once daily for 24-48 hours may switch to cefixime (after improvement noted) to complete a total of 7 days of therapy (CDC, 2010)

-*Endocarditis (unlabeled use)*: I.V.: 1-2 g every 12 hours for at least 28 days (CDC, 2010)

-*Epididymitis, acute (unlabeled use)*: I.M.: 250 mg in a single dose with doxycycline (CDC, 2010)

-*Meningitis*: I.V.: 1-2 g every 12 hours for 10-14 days (CDC, 2010)

-Infective endocarditis: I.M., I.V.:

-*Native valve*: 2 g once daily for 2-4 weeks; **Note**: If using 2-week regimen, concurrent gentamicin is recommended

-*Prosthetic valve*: I.M., I.V.: 2 g once daily for 6 weeks (with or without 2 weeks of gentamicin [dependent on penicillin MIC]); **Note**: For HACEK organisms, duration of therapy is 4 weeks

-*Enterococcus faecalis (resistant to penicillin, aminoglycoside, and vancomycin), native or prosthetic valve*: 2 g twice daily for  $\geq 8$  weeks administered concurrently with ampicillin

-*Prophylaxis*: 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.

-Intra-abdominal infection, complicated, community-acquired, mild-to-moderate (in combination with metronidazole): 1-2 g every 12-24 hours for 4-7 days (provided source controlled)

-Lyme disease (unlabeled use): I.V.: 2 g once daily for 14-28 days

-Mastoiditis (hospitalized; unlabeled use): I.V.: 2 g once daily; >60 years old: 1 g once daily

-Meningitis (empiric treatment): I.V.: 2 g every 12 hours for 7-14 days (longer courses may be necessary for selected organisms)

-Orbital cellulitis (unlabeled use) and endophthalmitis: I.V.: 2 g once daily

-Pelvic inflammatory disease: I.M.: 250 mg in a single dose plus doxycycline (with or without metronidazole) (CDC, 2010)

-Pneumonia, community-acquired: I.V.: 1 g once daily, usually in combination with a macrolide; consider 2 g/day for patients at risk for more severe infection and/or resistant organisms (ICU status, age >65 years, disseminated infection)

-Prophylaxis against sexually-transmitted diseases following sexual assault: I.M.: 250 mg as a single dose (in combination with azithromycin and metronidazole) (CDC, 2010)

-Prosthetic joint infection: I.V.:

-*Staphylococci, oxacillin-susceptible*: 1-2 g every 24 hours for 2-6 weeks (in combination with rifampin) followed by oral antibiotic treatment and suppressive regimens (Osmon, 2013)

-*Streptococci, beta-hemolytic*: 2 g every 24 hours for 4-6 weeks (Osmon, 2013)

-Pyelonephritis (acute, uncomplicated): Females: I.V.: 1-2 g once daily (Stamm, 1993). Many physicians administer a single parenteral dose before initiating oral therapy (Warren, 1999).

-Septic/toxic shock/necrotizing fasciitis (unlabeled use): I.V.: 2 g once daily; with clindamycin for toxic shock

-Surgical prophylaxis: I.V.: 1 g 30 minutes to 2 hours before surgery

-*Cholecystectomy*: 1-2 g every 12-24 hours, discontinue within 24 hours unless infection outside gallbladder suspected

-Syphilis (unlabeled use): I.M., I.V.: 1 g once daily for 10-14 days; Note: Alternative treatment for early syphilis, optimal dose, and duration have not been defined (CDC, 2010)

-Typhoid fever (unlabeled use): I.V.: 2 g once daily for 14 days

-Whipple's disease (unlabeled use): Initial: 2 g once daily for 10-14 days, then oral therapy for ~1 year.

#### Renal Impairment:

No dosage adjustment is generally necessary in renal impairment; **Note:** Concurrent renal and hepatic dysfunction: Maximum dose:  $\leq 2$  g/day.

Poorly dialyzed; no supplemental dose or dosage adjustment necessary, including patients on intermittent hemodialysis, peritoneal dialysis, or continuous renal replacement therapy (eg, CVVHD)

**Common side effects:** Induration , warmth (I.M.), tightness (I.M.)

Rash , Diarrhea , Eosinophilia , thrombocytosis , leukopenia , Transaminases increased

Local: Tenderness at injection site , pain.

**Pregnancy Risk Factor:** B