

**\*\*Ceftriaxone is a powerful third-generation cephalosporin antibiotic used to treat a wide range of serious bacterial infections. It is administered via injection and is known for its broad-spectrum activity and once-daily dosing.\*\***

---

## ## 🧪 Chemical Composition

- **\*\*Active Ingredient:\*\*** \*Ceftriaxone sodium\*
- **\*\*Molecular Formula:\*\***  $C_{18}H_{18}N_8O_7S_3$
- **\*\*Drug Class:\*\*** Third-generation cephalosporin ( $\beta$ -lactam antibiotic)
- **\*\*Formulations:\*\***
  - Injectable powder for reconstitution: 250 mg, 500 mg, 1 g, 2 g
  - Brand Names: Rocephin, Cefaxone, Ceftriax

---

## ## 💉 Dosage & Administration

- **\*\*Route:\*\*** Intravenous (IV) or intramuscular (IM)
- **\*\*Typical Adult Dosage:\*\***
  - \*Mild to moderate infections:\* 1–2 g once daily
  - \*Severe infections:\* Up to 4 g daily, divided into two doses
- **\*\*Pediatric Dosage:\*\***
  - 50–75 mg/kg/day IV/IM, depending on severity
- **\*\*Special Uses:\*\***
  - \*Gonorrhea:\* Single 250–500 mg IM dose
  - \*Meningitis:\* 2 g IV every 12 hours
- **\*\*Administration Tips:\*\***
  - Reconstitute with sterile water or lidocaine (for IM)
  - Avoid mixing with calcium-containing solutions

---

## ## 🏥 Medical Uses

- **\*\*Primary Indications:\*\***
  - Pneumonia and other respiratory infections
  - Meningitis
  - Septicemia
  - Urinary tract infections
  - Skin and soft tissue infections
  - Bone and joint infections
  - Gonorrhea and pelvic inflammatory disease
  - Surgical prophylaxis
- **\*\*Mechanism of Action:\*\***
  - Inhibits bacterial cell wall synthesis by binding to penicillin-binding proteins
  - Effective against gram-positive and gram-negative bacteria, including resistant strains

---

## ## ⚠️ Side Effects

**\*\*Common:\*\***

- Diarrhea
- Rash
- Pain or swelling at injection site
- Nausea

**\*\*Serious:\*\***

- Clostridium difficile-associated diarrhea
- Blood disorders (e.g., eosinophilia, thrombocytosis)
- Liver enzyme elevation
- Allergic reactions (anaphylaxis, angioedema)
- Gallbladder sludge (especially in children)

---

**## ⚠ Risks & Precautions**

- **\*\*Contraindications:\*\***
  - Allergy to cephalosporins or penicillins
  - Neonates with hyperbilirubinemia (risk of kernicterus)
- **\*\*Pregnancy & Breastfeeding:\*\***
  - Generally considered safe; consult a physician
- **\*\*Drug Interactions:\*\***
  - Avoid concurrent use with calcium-containing IV solutions
  - May interact with aminoglycosides and anticoagulants
- **\*\*Monitoring:\*\***
  - Liver and kidney function during prolonged use
  - Watch for signs of superinfection or resistance

---

**## 💬 Patient Feedback & Complaints**

**\*\*Positive Feedback:\*\***

- Highly effective for severe infections
- Convenient once-daily dosing
- Widely used in hospitals

**\*\*Common Complaints:\*\***

- Pain at injection site
- Gastrointestinal upset
- Allergic reactions in sensitive individuals
- Cost concerns for branded versions

---

**## 📄 Summary Table**

Category	Details

Drug Name	Ceftriaxone
Active Ingredient	Ceftriaxone sodium
Use	Severe bacterial infections
Dosage	1-2 g IV/IM once daily; up to 4 g/day for severe cases
Common Side Effects	Diarrhea, rash, injection site pain
Serious Risks	C. difficile infection, liver issues, allergic reactions
Patient Feedback	Effective; injection discomfort, GI upset, allergy risk
Contraindications	Allergy to cephalosporins, neonates with hyperbilirubinemia

#### Sources:

- [Practo - Ceftriaxone Overview](<https://www.practo.com/medicine-info/ceftriaxone-51-api>)
- [Medicover Hospitals - Ceftriaxone Uses and Risks](<https://www.medicoverhospitals.in/medicine/ceftriaxone>)
- [Verywell Health - Ceftriaxone Precautions](<https://www.verywellhealth.com/ceftriaxone-4847105>)

---