CEFTRIAXONE

Read in conjunction with Disclaimer

Formulary: Restricted Require microbiologist review within 24 hours of initiation.	
Presentation	**Vial (powder for reconstitution):** 1 g = 1000 mg
Classification	Third generation cephalosporin.
Indication	Used to treat infections caused by susceptible organisms: • Gonococcal prophylaxis, asymptomatic neonates born to mothers with gonococcal infection. • Gonococcal infection. • Sepsis. • Meningitis.
Special Considerations	• **Ceftriaxone is contraindicated in neonates receiving IV calcium-containing solutions, including TPN.** • Use caution in neonates younger than 3 weeks due to risk of kernicterus (except for stat doses). • Hyperbilirubinaemic neonates and preterm neonates should not be treated with ceftriaxone. In vitro studies have shown that ceftriaxone can displace bilirubin from its binding to serum albumin, leading to a possible risk of bilirubin encephalopathy in these patients. • Use with caution in patients with hypersensitivity or adverse reactions to penicillins/carbapenems as cross-reactivity can occur.
Monitoring	• Bilirubin, especially in preterm neonates. • Full blood count, urea and electrolytes, liver function tests.
Compatibility	**Fluids:** Sodium chloride 0.9%, glucose 5%, glucose 10%. **Y-site:** Aciclovir, dexamethasone, digoxin, erythromycin, fentanyl, furosemide, heparin sodium, hydrocortisone sodium succinate, insulin (Novorapid), lidocaine, midazolam, morphine sulfate, paracetamol, sodium bicarbonate, zidovudine.
Incompatibility	**Y-site:** Amikacin, gentamicin, tobramycin, azithromycin, **calcium chloride, calcium folinate, calcium gluconate,** caspofungin, clindamycin, dobutamine, fluconazole, ganciclovir, labetalol, linezolid, magnesium sulfate. ***This list is not exhaustive, contact pharmacy for further advice.***
Interactions	Do not mix ceftriaxone with IV solutions that contain calcium because a precipitate can form. Deaths have been reported in neonates. Ceftriaxone is contraindicated in neonates receiving IV calcium-containing solutions, including TPN.
Adverse Effects	**Common:** Diarrhoea, candidiasis. **Infrequent:** Skin rashes, transient gallbladder precipitation associated with abdominal pain, nausea, vomiting, raised liver enzymes, raised serum urea and/or creatinine. **Rare:** Neutropenia, eosinophilia, raised bilirubin, increased bleeding time.
Storage & Stability	**Vial:** Store at room temperature, below 25^{o}C. Protect from light.
Comments	Each 1 g of ceftriaxone contains 3.6 mmol (83 mg) of sodium.

INTRAVENOUS INFUSION

Presentation	**Vial (powder for reconstitution):** 1 g = 1000 mg ***Available from CIVAS (KEMH) and PCS (PCH):*** *40 mg/mL*
Dosage	**Gonococcal prophylaxis:** 50 mg/kg/dose as a single dose (maximum dose 250 mg).
	Sepsis or gonococcal infection: 50mg/kg/dose once daily.
	Meningitis: *Limited data available for neonatal dosing, consult microbiology/paediatric ID.*

Postnatal age	Loading dose	Maintenance dose
Less than 14 days	N/A	50 mg/kg/dose once daily
14 days or older	100 mg/kg/dose	80 mg/kg/dose once daily

Preparation	**Vial (powder for reconstitution):** 1 g = 1000 mg. **Step 1 Reconstitution:** • Add 9.4 mL of water for injection to the ceftriaxone vial. • Concentration is 1000 mg/10 mL = 100 mg/mL. **Step 2 Dilution:** • Draw up 2 mL (200 mg) and make up to 5 mL total volume with compatible fluid. • *Concentration now equal to* **40 mg/mL.**
Administration	**IV infusion:** • Infuse via syringe driver pump over 30 to 60 minutes.
	Do not mix or co-administer ceftriaxone with IV solutions that contain calcium because a precipitate can form. Deaths have been reported in neonates. Ceftriaxone is contraindicated in neonates receiving IV calcium-containing solutions, including TPN.

INTRAMUSCULAR

Presentation	**Vial (powder for reconstitution):** 1 g = 1000 mg
Dosage	**Gonococcal prophylaxis:** 50 mg/kg/dose as a single dose (maximum 250 mg).
	Sepsis or gonococcal infection: 50mg/kg/dose once a day.
	Meningitis: May be given IM for once off doses when IV access not available. See IV section for dosing.
Preparation	**Vial (powder for reconstitution):** 1 g = 1000 mg **Reconstitution:** • Add 3.4 mL of lidocaine 1% to the ceftriaxone vial. *Concentration now equal to* **250 mg/mL**
Administration	• Draw up the prescribed dose • Inject as per the Medication Administration Guideline • Avoid IM administration if possible due to increased incidence of pain.

Related Policies, Procedures, and Guidelines

Pharmaceutical and Medicines Management Guidelines:

CAHS Neonatology – Medication Administration Guideline

WNHS Cold Chain Management for Medications and Vaccines

CAHS Medication Refrigerators and Freezers

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Document history

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Abbreviations	IV: intravenous, IM: intramuscular, ID: infectious diseases, CIVAS: Centralised Intravenous Additive Service, PCS: Pharmacy Compounding Service, KEMH: King Edward Memorial Hospital, PCH: Perth Children's Hospital, TPN: total parenteral nutrition.				
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	Std 4: Medication Safety				
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