CEFTAZIDIME

Read in conjunction with Disclaimer

Formulary: Restricted Requires neonatologist/microbiologist review within 24 hours of initiation.	
Presentation	**Vial:** 1 g = **1000 mg** (powder for reconstitution)
Classification	Cephalosporin
Indication	• Used to treat infections caused by susceptible organisms with suspected resistance to other antimicrobials • Treatment of pseudomonas organisms resistant to, or as an alternative to aminoglycosides.
Special Considerations	Each 1 gram of ceftazidime contains 2.3 mmol (52 mg) of sodium.
Compatibility	**Fluids:** Water for injection, sodium chloride 0.9%, glucose 5%, glucose 10%.
Incompatibility	IV aminoglycoside antibiotics, including gentamicin, are inactivated by IV cephalosporins, penicillins and teicoplanin. Ensure lines are adequately flushed between antibiotics. Concurrent use of nephrotoxic medications may result in additive nephrotoxic effects.
Adverse Effects	**Common:** diarrhoea, nausea, abdominal pain, vomiting, pain and inflammation at injection site, rash, headache, dizziness, candidiasis, thrombocytosis, thrombophlebitis, eosinophilia.
	Infrequent: antibiotic associated colitis, angioedema, anaphylactic reaction.
	Rare: neurotoxicity (e.g. seizures, encephalopathy particularly with high doses and/or renal impairment), blood dyscrasias (e.g. neutropenia, thrombocytopenia), haemolytic anaemia, bleeding, renal impairment, acute kidney injury, tubulointerstitial nephritis, severe cutaneous adverse reactions (SCARs), elevated hepatic transaminases, positive Coomb's test.
Storage & Stability	**Vial:** Store at room temperature, below 25^{o}C. Protect from light.
Comments	Powder displacement of 1 g vial is 0.9 mL.

INTRAVENOUS

Presentation

Vial: 1 g = **1000 mg** (powder for reconstitution)

Available from CIVAS (KEMH) and PCS (PCH): *100 mg/mL (IV push).*

Available from CIVAS (KEMH Only): *40 mg/mL (IV infusion).*

Dosage

Infections due to susceptible organisms:

Corrected Gestational Age	Postnatal Age	Dose	Frequency
Less than 30 weeks	28 days or less	30 mg/kg/dose	Every 12 hours
	Greater than 28 days	30 mg/kg/dose	Every 8 hours
30 to 36 weeks	14 days or less	30 mg/kg/dose	Every 12 hours
	Greater than 14 days	30 mg/kg/dose	Every 8 hours
37 weeks or greater	7 days or less	30 mg/kg/dose	Every 12 hours
	Greater than 7 days	30 mg/kg/dose	Every 8 hours

Severe infections:

Consult microbiology/paediatric ID.

Corrected Gestational Age	Postnatal Age	Dose	Frequency
All	7 days or less	50 mg/kg/dose	Every 12 hours
	Greater than 7 days	50 mg/kg/dose	Every 8 hours

Dose Adjustment

Renal impairment: Dose reduction or increased dose intervals is recommended in renal impairment as reduced medication clearance and neurotoxicity can occur.

IV Push Preparation

IV push: 100 mg/mL

Reconstitution:

- Add 9.1 mL of water for injection to the ceftazidime vial.
- Shake to dissolve. The solution will create carbon dioxide and fizz but should become clear in 1 to 2 minutes. Expel gas from vial using a needle if required to relieve pressure.

Concentration now equal to **100 mg/mL.**

INTRAVENOUS	**IV Infusion Preparation**	**IV infusion:** 40 mg/mL **Step 1 Reconstitution:** • Add 9.1 mL of water for injection to the ceftazidime vial. • Shake to dissolve. The solution will create carbon dioxide and fizz but should become clear in 1 to 2 minutes. Expel gas from vial using a needle if required to relieve pressure. *Concentration now equal to* 100 mg/mL. **Step 2 Dilution:** • Draw up 4 mL (400 mg) and make up to 10 mL total volume with compatible fluid. *Concentration now equal to* **40 mg/mL.**	
	Administration	**IV push (100 mg/mL):** • IV Injection over 3 to 5 minutes.	
		IV infusion (40 mg/mL): • Infuse via syringe driver pump over 30 minutes.	

Related Policies, Procedures, and Guidelines

Pharmaceutical and Medicines Management Guidelines:

CAHS Neonatology – Medication Administration Guideline

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Document history

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Abbreviations	IV: intravenous, ID: infectious diseases, CIVAS: Centralised Intravenous Additive Service, PCS: Pharmacy Compounding Service, KEMH: King Edward Memorial Hospital, PCH, Perth Children's Hospital				
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