

Alert	The Antimicrobial Stewardship Team recommends this drug is listed under the following category: Restricted.																										
Indication	Treatment of meningitis and sepsis caused by susceptible gram-negative organisms (especially <i>Pseudomonas aeruginosa</i>) and susceptible gram-positive organisms.																										
Action	Bactericidal agent which inhibits cell wall synthesis in susceptible bacteria.																										
Drug Type	Cephalosporin antibiotic.																										
Trade Name	Ceftazidime Alphapharm, Ceftazidime Aspen, Ceftazidime Sandoz, Fortum, Hospira Ceftazidime.																										
Presentation	Ceftazidime 1 g vial Ceftazidime 2 g vial																										
Dosage / Interval	<p>50 mg/kg/dose. Dosing interval as per table below</p> <table border="1"> <thead> <tr> <th colspan="2">Method</th> <th rowspan="2">Interval</th> </tr> <tr> <th>Corrected Gestational Age/Postmenstrual Age</th> <th>Postnatal Age</th> </tr> </thead> <tbody> <tr> <td>< 30⁺⁰ weeks</td> <td>0–28 days</td> <td>12 hourly</td> </tr> <tr> <td>< 30⁺⁰ weeks</td> <td>29+ days</td> <td>8 hourly</td> </tr> <tr> <td>30⁺⁰–36⁺⁶ weeks</td> <td>0–14 days</td> <td>12 hourly</td> </tr> <tr> <td>30⁺⁰–36⁺⁶ weeks</td> <td>15+ days</td> <td>8 hourly</td> </tr> <tr> <td>37⁺⁰–44⁺⁶ weeks</td> <td>0–7 days</td> <td>12 hourly</td> </tr> <tr> <td>37⁺⁰–44⁺⁶ weeks</td> <td>8+ days</td> <td>8 hourly</td> </tr> <tr> <td>≥ 45 weeks</td> <td>0+</td> <td>8 hourly</td> </tr> </tbody> </table>	Method		Interval	Corrected Gestational Age/Postmenstrual Age	Postnatal Age	< 30 ⁺⁰ weeks	0–28 days	12 hourly	< 30 ⁺⁰ weeks	29+ days	8 hourly	30 ⁺⁰ –36 ⁺⁶ weeks	0–14 days	12 hourly	30 ⁺⁰ –36 ⁺⁶ weeks	15+ days	8 hourly	37 ⁺⁰ –44 ⁺⁶ weeks	0–7 days	12 hourly	37 ⁺⁰ –44 ⁺⁶ weeks	8+ days	8 hourly	≥ 45 weeks	0+	8 hourly
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Route	IV IM																										
Maximum Daily Dose	150mg/kg/day																										
Preparation/Dilution	<p>IV injection Add 8.9 mL of water for injection to the 1 g powder for reconstitution to make a 100 mg/mL solution.</p> <p>IM injection Add 3 mL water for injection to the 1 g powder for reconstitution to make a 260 mg/mL solution.</p>																										
Administration	<p>IV injection: Give over at least 3 to 5 minutes. IV infusion: Over 15–30 minutes via syringe driver.</p> <p>IM injection: Not recommended. If IM administration is necessary, ceftazidime may be reconstituted with lignocaine 1%.</p> <p>NOTE: Vials are carbonated, shake well after reconstitution and wait 1–2 minutes for the solution to clear before withdrawing the appropriate dose. Use a vented needle to reduce spraying and leaking.</p>																										
Monitoring	Not required.																										
Contraindications	Hypersensitivity to penicillins or cephalosporins.																										
Precautions	Sodium restriction (each gram contains 52 mg [2.3 mmol] of sodium). Renal impairment: Consider increasing dosage interval in those with significant renal impairment. Hepatic impairment.																										
Drug Interactions	Concurrent use of high doses with nephrotoxic drugs may adversely affect renal function.																										
Adverse Reactions	Rash Diarrhoea Elevated hepatic transaminases Eosinophilia, thrombocytopenia, haemolytic anaemia Positive Coombs test Superinfection following prolonged use (esp. <i>Candida</i>)																										

Compatibility	Fluids: Sodium chloride 0.9%, glucose 5%, glucose 10%, Hartmann's. Y-site: Amino acid solutions, aciclovir, amifostine, anidulafungin, aztreonam, , bivalirudin, cimetidine ciprofloxacin, dexmedetomidine, esmolol, filgrastim, foscarnet, granisetron, hydromorphone, ibuprofen lysine ketamine, labetalol, linezolid, morphine sulfate, pethidine, sodium valproate, tacrolimus, tigecycline, tobramycin , zidovudine.
Incompatibility	Fluids: Sodium bicarbonate. Y-site: Acetylcysteine, aminoglycosides – amikacin, gentamicin, tobramycin; amiodarone, atracurium, azathioprine, azithromycin, calcium chloride, caspofungin, chloramphenicol, chlorpromazine, dobutamine, erythromycin, fluconazole, ganciclovir, haloperidol lactate, hydralazine, midazolam, mycophenolate mofetil, pentamidine, phenytoin, promethazine, protamine, sodium ascorbate, sodium nitroprusside, vancomycin, verapamil.
Stability	Reconstitution with water for injection: Solution stable for 12 hours below 25°C and 24 hours at 2 to 8°C. Reconstitution with lignocaine: Stable for 6 hours below 25°C and 24 hours at 2 to 8°C.
Storage	Store below 25°C. Protect from light.
Special Comments	
Evidence summary	To be updated.
References	<ol style="list-style-type: none"> Hey E. (Ed) [2003]. Neonatal Formulary 4th Edition. BMJ Publishing Group, London. Neofax accessed on www.neofax.micromedex.solutions.com on 29th July 2015. MIMS Online Accessed 7th July 2015. Australian Injectable Drugs Handbook, 6th Edition, Society of Hospital Pharmacists of Australia 2015. Micromedex® 2.0, (electronic version). Truven Health Analytics, Greenwood Village, Colorado, USA. Available at: http://www.micromedexsolutions.com.acs.hcn.com.au. Accessed 7th July 2015. Cotten CM, McDonald S, Stoll B, Goldberg RN, Poole K, Benjamin DK Jr, National Institute for Child Health and Human Development Neonatal Research Network. The association of third-generation cephalosporin use and invasive candidiasis in extremely low birth-weight infants. <i>Pediatrics</i> 2006;118(2):717–22. Calil R, Marba ST, von Nowakowski A, Tresoldi AT. Reduction in colonization and nosocomial infection by multiresistant bacteria in a neonatal unit after institution of educational measures and restriction in the use of cephalosporins. <i>Am J Infect Control</i> 2001;29(3):133–8. Dellagrammaticas HD, Christodoulou C, Megaloyanni E, Papadimitriou M, Kapetanakis J, Kourakis G. Treatment of gram-negative bacterial meningitis in term neonates with third generation cephalosporins plus amikacin. <i>Biol Neonate</i> 2000;77(3):139–46. Harvey D, Holt DE, Bedford H. Bacterial meningitis in the newborn: a prospective study of mortality and morbidity. <i>Semin Perinatol</i> 1999;23(3):218–25.

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