cefOTAXIME
Newborn use only

2020

<table>
<tr><td>Alert</td><td>High risk medicine. The Antimicrobial Stewardship Team recommends this drug is listed under the following category: Restricted.</td></tr>
<tr><td>Indication</td><td>As part of therapy for suspected meningitis.
Treatment of proven meningitis and sepsis caused by susceptible organisms (e.g., E.coli, H. influenzae, Klebsiella spp.).</td></tr>
<tr><td>Action</td><td>Bactericidal agent which inhibits cell wall synthesis in susceptible bacteria.
Broad spectrum against gram positive and many gram negative organisms but not Pseudomonas species.</td></tr>
<tr><td>Drug type</td><td>Cephalosporin antibiotic.</td></tr>
<tr><td>Trade name</td><td>Cefotaxime Sandoz, DBL Cefotaxime Sodium</td></tr>
<tr><td>Presentation</td><td>500 mg and 1 g vial</td></tr>
<tr><td>Dose</td><td>50 mg/kg/dose.
<table>
<tr><th>Corrected Gestational Age/Postmenstrual Age</th><th>Postnatal Age</th><th>Interval</th></tr>
<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} weeks</td><td>0–7 days</td><td>8 hourly</td></tr>
<tr><td>≥ 37^{+0} weeks</td><td>≥8 days</td><td>6 hourly</td></tr>
</table></td></tr>
<tr><td>Dose adjustment</td><td></td></tr>
<tr><td>Maximum dose</td><td></td></tr>
<tr><td>Total cumulative dose</td><td></td></tr>
<tr><td>Route</td><td>IV
IM</td></tr>
<tr><td>Preparation</td><td>IV
Add 9.8 mL of water for injection to the 500 mg powder to make a 50 mg/mL solution OR
Add 9.6 mL of water for injection to the 1 g powder to make a 100 mg/mL solution.

IM injection
Add 2 mL of water for injection to the 500 mg powder to make a 230 mg/mL solution OR
Add 3 mL of water for injection to the 1 g powder to make a 300 mg/mL solution.</td></tr>
<tr><td>Administration</td><td>IV bolus: over 3–5 minutes.
IV infusion: over 15–30 minutes
IM injection: Inject deep into the large muscle.</td></tr>
<tr><td>Monitoring</td><td>Cefotaxime has a high therapeutic index.
Consider monitoring renal function, blood count and electrolytes if therapy is prolonged.</td></tr>
<tr><td>Contraindications</td><td>Hypersensitivity to cefotaxime or other cephalosporins or previous history of major allergic response to a penicillin.</td></tr>
<tr><td>Precautions</td><td>Liver and renal disease.
Sodium restriction – cefotaxime contains 48.2 mg/g (2.1 mmol/g) sodium.</td></tr>
<tr><td>Drug interactions</td><td>May potentiate the renal toxicity of nephrotoxic drugs.
Should not be combined with bacteriostatic antibiotics (e.g., tetracycline, erythromycin or chloramphenicol) since there may be a potential antagonistic effect.</td></tr>
<tr><td>Adverse reactions</td><td>Leucopaenia, granulocytopaenia, agranulocytosis.
Moderate and transient rise in liver enzymes and/or bilirubin.
Hypersensitivity reactions.
Arrhythmias have occurred in patients who received rapid IV administration through a central venous catheter.
Fungal sepsis.
Bacterial resistance.</td></tr>
<tr><td>Compatibility</td><td>Fluids: Glucose 5%, glucose 10%, Hartmann’s, sodium chloride 0.9%</td></tr>
</table>

	Y site: Amino acid solutions, aciclovir, amifostine, aztreonam, bivalirudin, dexmedetomidine, granisetron, hydromorphone, magnesium sulfate, midazolam, morphine sulfate, pethidine, remifentanil, tigecycline.
Incompatibility	Fluids: Alkaline solutions e.g., containing sodium bicarbonate. Y site: Aminoglycosides – amikacin, gentamicin, tobramycin; azathioprine, azithromycin, caspofungin, chloramphenicol, chlorpromazine, dobutamine, dolasetron, filgrastim, fluconazole, ganciclovir, haloperidol lactate, hydralazine, labetalol, methylprednisolone sodium succinate, mycophenolate mofetil, pentamidine, phenobarbitone, phentolamine, promethazine, protamine, sodium bicarbonate, vecuronium.
Stability	Reconstituted solution is stable for 24 hours at 2 to 8 °C. Protect from light. Do not use if powder or solutions have darkened in colour.
Storage	Store below 25°C Protect from light.
Excipients	
Special comments	The main metabolite of cefotaxime is desacetylcefotaxime. This metabolite is active and is thought to enhance activity against Gram negative organisms. It has a longer half-life than cefotaxime. The major route of clearance of both cefotaxime and desacetylcefotaxime is renal.
Evidence	To be updated.
Practice points	
References	1. Aujard Y, Brion F, Jacqz-Aigrain E, et al: Pharmacokinetics of cefotaxime and desacetylcefotaxime in the newborn. Diagn Microbial Infect Dis 1989;12:87–91. 2. Jacobs R, Kearns G: Cefotaxime and deacetylcefotaxime in neonates and children: a review of microbiologic, pharmacokinetic and clinical experience. Diagn Microbial Infect Dis 1989;12:93–99. 3. Kafetzis D, Brater D, Kapiki A, et al: Treatment of severe neonatal infections with cefotaxime. Efficacy and pharmacokinetics. The Journal of Pediatrics 1982;100:483–489. 4. Kearns G, Young R: Pharmacokinetics of cefotaxime and deacetylcefotaxime in the young. Diagn Microbial Infect Dis 1995;22:97–104. 5. Kearns G, Jacorbs R, Thomas B, et al: Cefotaxime and desacetylcefotaxime pharmacokinetics in very low birth weight neonates. The Journal of Pediatrics 1989;114:461–7. 6. Odio C: Cefotaxime for treatment of neonatal sepsis and meningitis. Diagn Microbial Infect Dis 1995;22:111–117. 7. Sivanandan S, Soraisham A, Swarnam K: Choice and duration of antimicrobial therapy for neonatal sepsis and meningitis. International Journal of Pediatrics, 2011:712150. doi: 10.1155/2011/71215. 8. Craig W: Interrelationship between pharmacokinetics and pharmacodynamics in determining dosage regimens for broad spectrum cephalosporins. Diagn Microbial Infect Dis 1995;22:89–96 9. Pacifici G: Pharmacokinetics of cephalosporins in the neonate: a review. Clinics 2011;66(7):1267–1274. 10. Young T, Mangum B Neofax 23rd edition, Thomson Reuters 2010. 11. Australian Injectable Drugs Handbook. 5th Edition. The Society of Hospital Pharmacists of Australia. 2011. 12. MIMS online via CIAP accessed 7th July 2015. 13. 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. Pediatrics 2006;118(2):717–22. 14. Calil R, Marba ST, von Nowakonski 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. Am J Infect Control 2001;29(3):133–8. 15. 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. Biol Neonate 2000;77(3):139–46. 16. Harvey D, Holt DE, Bedford H. Bacterial meningitis in the newborn: a prospective study of mortality and morbidity. Semin Perinatol 1999;23(3):218–25. 17. Neofax accessed on www.neofax.micromedex.solutions.com on 29th July 2015.

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