CeFAZolin
Newborn use only

2021

<table>
<tr><td>Alert</td><td>High risk medicine. The Antimicrobial Stewardship Team recommends this drug is listed under the following category: Unrestricted.
Contains 48 mg of sodium per gram of cefazolin sodium.</td></tr>
<tr><td>Indication</td><td>Treatment of infections caused by susceptible organisms:
Gram positive bacteria Streptococci and Staphylococci including beta-lactamase producing Staphylococci
Gram negative bacteria Escherichia coli and some Klebsiella species, provided these are reported susceptible to cefazolin).
Peri-operative prophylaxis (ANMF consensus)</td></tr>
<tr><td>Action</td><td>Bactericidal. Inhibits bacterial cell wall synthesis of actively dividing cells by binding to one or more penicillin binding proteins.</td></tr>
<tr><td>Drug type</td><td>Antibiotic, First generation cephalosporin.</td></tr>
<tr><td>Trade name</td><td>Cefazolin Sandoz, Cefazolin-AFT, Hospira Cefazolin, Kefzol, Cephazolin Alphapharm</td></tr>
<tr><td>Presentation</td><td>1 g vial.</td></tr>
<tr><td>Dose</td><td>
<table>
<tr><th>Postnatal age</th><th>Weight (g)</th><th>Dose</th><th>Interval</th></tr>
<tr><td rowspan="2">< 8 days</td><td>< 2000</td><td>25 mg/kg/dose</td><td>12 hourly</td></tr>
<tr><td>≥ 2000</td><td>50 mg/kg/dose</td><td>12 hourly</td></tr>
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<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 infusion (preferable); IV bolus; IM</td></tr>
<tr><td>Preparation</td><td><u>IV Infusion</u>
Add 9.5 mL water for injection to the 1 g vial to make 100 mg/mL solution
FURTHER DILUTE
Draw up 5 mL (500 mg of cefazolin) and add 15 mL of sodium chloride 0.9% to make a final volume of 20 mL with a final concentration of 25 mg/mL.

<u>IV bolus</u>: Add 9.5 mL water for injection to the 1 g vial to make a 100 mg/mL solution.

<u>IM</u>: Add 2.5 mL water for injection to the 1 g vial to make a 330 mg/mL solution.</td></tr>
<tr><td>Administration</td><td>IV infusion: Infuse over 30 minutes (10-60 minutes).
IV bolus: Slow injection over 5 minutes.
IM: Inject deep into large muscle mass.</td></tr>
<tr><td>Monitoring</td><td>Serum concentrations are not routinely monitored.
Perform renal function, electrolytes and FBC during prolonged (> 10 days) therapy.</td></tr>
<tr><td>Contraindications</td><td>History of allergy to cephalosporins, anaphylaxis to penicillin or carbapenem.</td></tr>
<tr><td>Precautions</td><td>Sodium restriction — each gram of cefazolin contains 48.3 mg (2.1 mmol) sodium.
May increase risk of bleeding due to its effect on clotting factors.
Impaired renal function: consider reducing dose as seizures may occur if inappropriately high doses are administered.</td></tr>
<tr><td>Drug interactions</td><td>Administration with other drugs, particularly aminoglycosides may increase risk of nephrotoxicity.</td></tr>
<tr><td>Adverse reactions</td><td>Thrombophlebitis, pruritus, rash, diarrhoea, nausea, oral candidiasis, pseudomembranous colitis, vomiting, Stevens Johnson Syndrome, Clostridium difficile colitis, positive Coombs test, eosinophilia, leukopenia, neutropenia, thrombocytopenia, thrombocytosis, blood coagulation disorder, raised liver enzymes, candidiasis, raised urea, creatinine and renal failure.</td></tr>
<tr><td>Compatibility</td><td>Fluids: Glucose 5%, glucose 10%, glucose in sodium chloride solutions, Hartmann’s, sodium chloride 0.9%, water for injections.
Y-site: Aciclovir, amifostine, anidulafungin, atracurium, aztreonam, bivalirudin, dexmedetomidine, esmolol, filgrastim, fluconazole, foscarnet, granisetron, heparin sodium, linezolid, magnesium sulfate, midazolam, morphine sulfate, palonosetron, pancuronium, pethidine, remifentanil, vecuronium.</td></tr>
<tr><td>Incompatibility</td><td>Fluids: No information</td></tr>
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	Drugs: Aminoglycosides − amikacin, gentamicin, tobramycin; ascorbic acid, azathioprine, calcium chloride, caspofungin, chlorpromazine, dobutamine, dolasetron, dopamine, erythromycin, ganciclovir, haloperidol lactate, hydralazine, mycophenolate mofetil, pentamidine, promethazine, rocuronium.
Stability	Stable for 24 hours below 25°C. However store at 2 to 8°C and use as soon as possible. Crystals may form if the solution is refrigerated. Redissolve by shaking the vial and warming in the hands.
Storage	Store below 25°C. Protect from light.
Excipients	
Special comments	Poor penetration into cerebrospinal fluid therefore not suitable for infections of the CNS. Renally excreted as unchanged drug. Not metabolised. Half-life in neonates is 3 to 5 hours. Cefazolin is highly bound to serum albumin −only the unbound cefazolin is pharmacologically active. Water for injection is the preferred diluent. Crystals may form when cefazolin is reconstituted with sodium chloride 0.9% to a concentration of 330 mg/mL. The crystals formed are small and may be overlooked. Redissolve by warming the vial in hands until the solution is clear.
Evidence	The dosing regimen adopted by the consensus group is based on a neonatal pharmacokinetic model taking into account total and unbound cefazolin concentrations with saturable plasma protein binding.[6] A prospective validation of this dosing regimen is needed.
Practice points	
References	1. Hey E. (Ed) [2003]. Neonatal Formulary 4th Edition. BMJ Publishing Group, London 2. MIMS Online Cited: 15/05/2015. 3. Micromedex® 2.0, (electronic version). Truven Health Analytics, Greenwood Village, Colorado, USA. Available at: http://www.micromedexsolutions.com.acs.hcn.com.au Cited 15/4/2015. 4. Australian Medicine Handbook 2015 (online). Adelaide: Australian Medicines Handbook Pty Ltd; 2015 January. 5. Antibiotic Expert Groups. Therapeutic guidelines: antibiotic. Version 15. Melbourne: Therapeutic Guidelines Limited; 2014. 6. De Cock R, Smits A, Allegoert K et al. Population pharmacokinetic modelling of total and unbound cefazolin plasma concentrations as a guide for dosing in preterm and term neonates. Journal of antimicrobial chemotherapy. Doi:10.1093/jac/dkt527 2013 7. Pacifici G. Pharmacaokinetics of cephalosporins in the neonate: a review. Clinics 2011;66(7):1267-1274

VERSION/NUMBER	DATE
Original 1.4	10/02/2016
Version 2.0	16/12/2020
Current 3.0	01/07/2021
REVIEW	01/07/2026

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