Alert
The Antimicrobial Stewardship Team recommends this drug is listed under the following category:
Unrestricted.

Indication
Treatment of infections caused by susceptible organisms: Gram positive bacteria (Streptococci and Staphylococci including beta-lactamase producing Staphylococci) and gram negative bacteria (Escherichia coli and some Klebsiella species, provided these are reported susceptible to cefazolin).

Action
Bactericidal. Inhibits bacterial wall synthesis of actively dividing cells by binding to one or more penicillin binding proteins.

Drug Type
Antibiotic: First generation cephalosporin.

Trade Name
Cefazolin Sandoz, Cefazolin-AFT, Hospira Cefazolin, Kefzol, Cephazolin Alphapharm

Presentation
1 g vial.

Dosage / Interval
<table>
<thead>
<tr>
<th>Post natal age</th>
<th>Weight (g)</th>
<th>Dose</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 8 days</td>
<td>&lt; 2000</td>
<td>25 mg/kg/dose</td>
<td>12 hourly</td>
</tr>
<tr>
<td>≥ 2000</td>
<td></td>
<td>50 mg/kg/dose</td>
<td>12 hourly</td>
</tr>
<tr>
<td>≥ 8 days</td>
<td>&lt; 2000</td>
<td>25 mg/kg/dose</td>
<td>8 hourly</td>
</tr>
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<td>≥ 2000</td>
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</tr>
</tbody>
</table>

Route
IV infusion (preferable)
IV injection
IM

Preparation/Dilution
IV Infusion: Add 9.5 mL WFI to the 1 g powder for reconstitution to make a concentration of 100 mg/mL. Further draw up 5 mL (500 mg) and add 15 mL of sodium chloride 0.9% to make a final volume of 20 mL with a concentration of 25 mg/mL.
IV injection: Add 9.5 mL WFI to the 1 g powder for reconstitution to make a concentration of 100 mg/mL.
IM: Add 2.5 mL WFI to the 1 g powder for reconstitution to make a concentration of 330 mg/mL.

Administration
IV infusion: Infuse over 30 minutes (10-60 minutes).
IV injection: Slow injection over 5 minutes.
IM injection: Inject deep into large muscle mass.

Monitoring
Serum concentrations are not routinely monitored.
Monitor renal function and complete blood count during prolonged (> 10 days) and/or high-dose treatment.

Contraindications
History of allergy to cephalosporins, anaphylaxis to penicillin or carbapenem.

Precautions
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.

Drug Interactions
Administration with other drugs, particularly aminoglycosides may increase risk of nephrotoxicity.

Adverse Reactions
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.

Compatibility
Fluids: Glucose 5%, glucose 10%, glucose in sodium chloride solutions, Hartmann's, sodium chloride 0.9%, water for injections.
Compatible via 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.
### Incompatibility

Fluids: No information

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.

### 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 summary

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. A prospective validation of this dosing regimen is needed.

### References

2. MIMSOnline Cited: 15/05/2015.

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**Original version Date: 10/02/2016**

**Author:** Neonatal Medicines Formulary Consensus Group

**Current Version number: 1.4**

**Current Version Date: 10/11/2016**

**Risk Rating: Medium**

**Due for Review: 10/02/2019**

**Approved by: JHCH CQ&PCC**

**Approval Date: 22/11/2016**