

**CEFTAZIDIME**

| <b>Trade Name</b>  | Ceftazidime AFT   |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
|--|---|--------------|------------------|--------------|---------------|-----|--------|-------|------------------|------|--------------|--------------|---------------|-----|------|---------|------------------|
| <b>Class</b>   | Third generation cephalosporin<br>Good beta-lactamase resistance  |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| <b>Mechanism of Action</b>                                   | Inhibits bacterial cell wall synthesis and thereby causing bacterial lysis.   |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| <b>Indications</b>   | Treatment of Pseudomonas aeruginosa infection and other susceptible gram negative organisms (e.g. E Coli, H Influenza, Neisseria, Klebsiella, Proteus species) and has some gram positive cover.  |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| <b>Contraindications</b>                                     | Known sensitivity to cephalosporins.<br>Caution in patients with Type 1 hypersensitivity to penicillin<br>Caution in patients with renal impairment, consider lengthening the dosing interval.  |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| <b>Supplied As</b>   | 500mg vial as powder for injection  |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| <b>Dilution</b><br>This data is directly from the data sheet | <p><b>IV:</b></p> <table border="1"> <thead> <tr> <th>Vial</th> <th>Water Added</th> <th>Final Volume</th> <th>Concentration</th> </tr> </thead> <tbody> <tr> <td>1 g</td> <td>8.9 mL</td> <td>10 mL</td> <td><b>100 mg/mL</b></td> </tr> </tbody> </table> <p>When reconstituted carbon dioxide bubbles will form.<br/>*Displacement value for this dilution is 1.1mL</p> <p><b>IM:</b></p> <table border="1"> <thead> <tr> <th>Vial</th> <th>1%Lignocaine</th> <th>Final Volume</th> <th>Concentration</th> </tr> </thead> <tbody> <tr> <td>1 g</td> <td>3 mL</td> <td>3.42 mL</td> <td><b>260 mg/mL</b></td> </tr> </tbody> </table> <p>When reconstituted carbon dioxide bubbles will form.<br/>*Displacement value for this dilution is 0.42mL</p> | Vial         | Water Added      | Final Volume | Concentration | 1 g | 8.9 mL | 10 mL | <b>100 mg/mL</b> | Vial | 1%Lignocaine | Final Volume | Concentration | 1 g | 3 mL | 3.42 mL | <b>260 mg/mL</b> |
| Vial   | Water Added   | Final Volume | Concentration    |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| 1 g  | 8.9 mL  | 10 mL        | <b>100 mg/mL</b> |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| Vial   | 1%Lignocaine  | Final Volume | Concentration    |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| 1 g  | 3 mL  | 3.42 mL      | <b>260 mg/mL</b> |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| <b>Dosage</b>  | 30mg/kg/dose<br>50mg/kg/dose in proven meningitis<br>Max dose = 150mg/kg/day  |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |
| <b>Administration</b>  | <b>IV:</b> Slow push over 3-5 minutes<br><b>IM:</b> Inject dose into a large muscle (buttock, thigh)<br>IM dose volume should be kept between 0.5-1mL if possible to decrease the pain for the baby<br>See IM drug guideline in Drugs folder and Handbook   |              |                  |              |               |     |        |       |                  |      |              |              |               |     |      |         |                  |

| Interval                 | GA Birth (wks)   | Postnatal Age (Days) | Interval (hrs) |
|--------------------------|--|----------------------|----------------|
|                          | <29  | 0-28                 | 12             |
|                          |  | >28                  | 8              |
|                          | 30-36  | 0-14                 | 12             |
|                          |  | >14                  | 8              |
|                          | 37-44  | 0-7                  | 12             |
|                          |  | >7                   | 8              |
|                          | >44  | Any                  | 8              |
| <b>Compatible With</b>   | <p>5% dextrose, 10% dextrose, 0.9% sodium chloride</p> <p>May be given with 0.5% or 1 % lignocaine for IM administration.</p> <p>Y-site compatability:</p> <p>Acyclovir, amikacin, aminophylline, aztreonam, cimetidine, clindamycin, dobutamine, dopamine, enalaprilat, epinephrine, esmolol, famotidine, furosemide, gentamicin, heparin, ibuprofen lipid, lysine, linezolid, metronidazole, milrinone, morphine, potassium chloride, propofol, ranitidine, remifentanil, sodium bicarbonate, TPN, tobramycin, and zidovudine.</p> |                      |                |
| <b>Incompatible With</b> | <p>Amiodarone, azithromycin, erythromycin lactobionate, fluconazole, midazolam, nicardipine, phenytoin, and vancomycin.</p>  |                      |                |

|                          |   |
|--------------------------|---|
| <b>Monitoring</b>        | <p>Closer monitoring of electrolytes may be indicated due to the sodium content (see comments box below)</p>  |
| <b>Stability</b>         | <p>Discard remaining solution in vial after reconstitution</p> <p>Use a new vial for each dose</p> <p>Vials are not designed for multidosing</p> <p>Protect vial from light</p>   |
| <b>Storage</b>           | <p>Unopened vials should be stored at room temperature &lt; 25°C</p>  |
| <b>Adverse Reactions</b> | <p>Uncommon.</p> <p>Reported: diarrhoea, pain at injection site, infusion related phlebitis, elevated hepatic transaminases, rashes, eosinophilia and positive Coomb's test.</p>  |
| <b>Metabolism</b>        | <p>Widely distributed throughout body. CSF concentration increased when meninges inflamed. Low protein binding (17%). Majority of drug is excreted unchanged in the urine. Serum half life in neonates is 3-12hrs. Ceftazidime is synergistic with aminoglycosides.</p> |
| <b>Comments</b>          | <p>Sodium content of ceftazidime is 52mg ( 2.3 mmol) per gram</p>   |

|   |   |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |
|---|---|------------|----------|--------------------------|---------------|------------------------------------|----------------------|-----------------------|------------------------------|--|-------------------------|---|--|
| <b>References</b>                             | <ol style="list-style-type: none"> <li>1. Neofax, 1999</li> <li>2. Medicines for Children, RCHP, 1999</li> <li>3. Trissell Handbook on Injectable Drugs 10<sup>th</sup> Edition</li> <li>4. NZHPA Notes on Injectable Drugs 5<sup>th</sup> Edition</li> <li>5. <a href="http://www.medsafe.govt.nz">www.medsafe.govt.nz</a> for displacement values and concentrations</li> <li>6. <a href="http://seslhd.health.nsw.gov.au">seslhd.health.nsw.gov.au</a></li> </ol>  |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |
| <b>Updated By</b>                             | <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Dr Di Gray</td> <td style="width: 40%;">May 2000</td> </tr> <tr> <td>P Schmidt, B Robertshawe</td> <td>November 2004</td> </tr> <tr> <td>A Lynn, B Robertshawe, F Robertson</td> <td>May 2009 (new pumps)</td> </tr> <tr> <td>A Lynn, B Robertshawe</td> <td>June 2012 (re-order profile)</td> </tr> <tr> <td></td> <td>Nov 2012 (discard vial)</td> </tr> <tr> <td colspan="2">A Lynn, M Wallenstein, B Robertshawe Dec 2020</td> </tr> </table> | Dr Di Gray | May 2000 | P Schmidt, B Robertshawe | November 2004 | A Lynn, B Robertshawe, F Robertson | May 2009 (new pumps) | A Lynn, B Robertshawe | June 2012 (re-order profile) |  | Nov 2012 (discard vial) | A Lynn, M Wallenstein, B Robertshawe Dec 2020 |  |
| Dr Di Gray                                    | May 2000  |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |
| P Schmidt, B Robertshawe                      | November 2004   |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |
| A Lynn, B Robertshawe, F Robertson            | May 2009 (new pumps)  |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |
| A Lynn, B Robertshawe                         | June 2012 (re-order profile)  |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |
|   | Nov 2012 (discard vial)   |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |
| A Lynn, M Wallenstein, B Robertshawe Dec 2020 |   |            |          |                          |               |                                    |                      |                       |                              |  |                         |   |  |