

<b>Alert</b>	The Antimicrobial Stewardship Team has listed this drug under the following categories: Restricted.														
<b>Indication</b>	Therapy of non-CNS infections caused by susceptible beta-lactamase and non-beta-lactamase producing Gram-positive and Gram-negative aerobic and anaerobic microorganisms including <i>Escherichia coli</i> , <i>Citrobacter</i> spp., <i>Klebsiella</i> spp., <i>Enterobacter</i> spp., <i>Proteus vulgaris</i> , <i>Proteus mirabilis</i> , <i>Serratia</i> spp., <i>Pseudomonas aeruginosa</i> and other <i>Pseudomonas</i> spp., <i>Acinetobacter</i> spp., <i>Haemophilus influenza</i> , Streptococci, Enterococci, <i>Staphylococcus aureus</i> (not methicillin resistant <i>S. aureus</i> ), <i>Bacteroides</i> spp., and <i>Clostridia</i> spp. Sensitivity to coagulase-negative <i>Staphylococcus</i> (CONS) can be variable and antibiotic susceptibility needs to be confirmed prior to using it as the agent for treatment of CONS sepsis [11].														
<b>Action</b>	Piperacillin is an extended- spectrum, semisynthetic beta-lactam penicillin. Tazobactam is a beta lactamase inhibitor														
<b>Drug Type</b>	Antibiotic – penicillin and beta-lactamase inhibitor.														
<b>Trade Name</b>	Tazocin EF, PiperTaz, Piptaz, DBL Piperacillin and Tazobactam, Tazopip														
<b>Presentation</b>	4.5 g vial (4 g piperacillin and 0.5 g tazobactam).														
<b>Dosage / Interval</b>	<table border="1"> <thead> <tr> <th>Corrected Gestational Age/Postmenstrual Age</th> <th>Dose (mg of piperacillin/kg)</th> <th>Interval</th> </tr> </thead> <tbody> <tr> <td>&lt; 30<sup>+0</sup> weeks</td> <td>100 mg/kg/dose</td> <td>8 hourly</td> </tr> <tr> <td>30<sup>+0</sup>–35<sup>+6</sup> weeks</td> <td>80 mg /kg/dose</td> <td>6 hourly</td> </tr> <tr> <td>≥ 36<sup>+0</sup> weeks*</td> <td>80 mg/kg/dose</td> <td>6 hourly</td> </tr> </tbody> </table> <p>*Consider 4 hourly dosing if <b>culture-proven</b> sepsis in this group.</p>			Corrected Gestational Age/Postmenstrual Age	Dose (mg of piperacillin/kg)	Interval	< 30 <sup>+0</sup> weeks	100 mg/kg/dose	8 hourly	30 <sup>+0</sup> –35 <sup>+6</sup> weeks	80 mg /kg/dose	6 hourly	≥ 36 <sup>+0</sup> weeks*	80 mg/kg/dose	6 hourly
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<b>Route</b>	IV														
<b>Preparation/Dilution</b>	Add 17 mL WFI to the 4.5 g piperacillin + tazobactam powder for reconstitution to make a concentration of 200 mg/mL of piperacillin equivalent. Draw up 1 mL (200 mg of piperacillin equivalent) and add 9 mL of sodium chloride 0.9% to make a final volume of 10 mL with a concentration of 20 mg/mL of piperacillin equivalent.														
<b>Administration</b>	IV infusion over 30 minutes.														
<b>Monitoring</b>	Monitor complete blood count, renal and hepatic function during prolonged treatment (> 10 days).														
<b>Contraindications</b>	Hypersensitivity to any of the penicillins and/or cephalosporins or beta-lactamase inhibitors.														
<b>Precautions</b>	Prolonged therapy makes leucopenia, neutropenia and thrombocytopenia more likely.														
<b>Drug Interactions</b>	Piperacillin may enhance the nephrotoxic effect of vancomycin. Piperacillin + tazobactam along with high doses of heparin and oral anticoagulants may affect the blood coagulation system. Piperacillin may increase the serum concentration of flucloxacillin. Piperacillin may increase the prolongation of the neuromuscular blockade of vecuronium.														
<b>Adverse Reactions</b>	Generally well tolerated. Hypersensitivity reactions can occur. Rash (maculopapular), phlebitis, thrombophlebitis. Diarrhoea, nausea, vomiting, stomatitis and pseudomembranous colitis ( <i>Clostridium difficile</i> ). Black tongue, fever, anaphylactic shock, angioedema, bronchospasm. Leucopenia, thrombocytopenia, anaemia. Elevated transaminases. Renal impairment. Hypokalaemia, hypernatraemia, metabolic alkalosis.														

	Candidiasis.
<b>Compatibility</b>	<p>Tazocin EF contains citric acid monohydrate and disodium edetate (EDTA). PiperTaz, Piptaz, DBL Piperacillin and Tazobactam, Tazopip are EDTA-free.</p> <p>Fluids: Sodium chloride 0.9%, glucose 5%, glucose 10%</p> <p>Y-site: EDTA-free brands only (NOT Tazocin EF): Amino acid solutions, aminophylline, anidulafungin, aztreonam, bivalirudin, buprenorphine, calcium folinate, calcium gluconate monohydrate, clindamycin, dexamethasone, dexmedetomidine, dopamine, fluconazole, furosemide (frusemide), granisetron, heparin sodium, hydrocortisone sodium succinate, hydromorphone, linezolid, magnesium sulfate heptahydrate, methylprednisolone sodium succinate, metoclopramide, metronidazole, morphine sulfate pentahydrate, pethidine, potassium chloride, ranitidine, remifentanyl, tigecycline, trimethoprim + sulfamethoxazole, zidovudine.</p> <p>Y-site: Tazocin EF only: No information available.</p>
<b>Incompatibility</b>	<p>Fluids: Albumin, blood products and alkaline solutions.</p> <p>Y site: Aminoglycosides, aciclovir, albumin, amiodarone, azithromycin, caspofungin, chlorpromazine, ciprofloxacin, dobutamine, droperidol, ganciclovir, glycopyrronium bromide (glycopyrrolate), haloperidol lactate, hydralazine, insulin (short-acting), labetalol, midazolam, mycophenolate mofetil, pentamidine isetionate, promethazine, rocuronium, sodium bicarbonate, thiopentone, tobramycin, tranexamic acid, vecuronium, verapamil.</p>
<b>Stability</b>	Reconstituted solution is stable for 24 hours below 25°C or at 2–8°C. Immediate use is recommended.
<b>Storage</b>	Store vial below 25°C
<b>Special comments</b>	Doses are expressed as the piperacillin component.
<b>Evidence summary</b>	As per NeoMed Consensus Group. Refer to reference manual or electronic version.
<b>References</b>	As per NeoMed Consensus Group. Refer to reference manual or electronic version.

<b>Original version Date: 05/12/2015</b>	<b>Author: Neonatal Medicines Formulary Consensus Group</b>
<b>Current Version number: 1</b>	<b>Version Date: 05/12/2015</b>
<b>Risk Rating: Medium</b>	<b>Due for Review: 27/09/2019</b>
<b>Approved by: JHCHCQ&amp;PCC</b>	<b>Approval Date: 27/09/2016</b>