

Imipenem + cilastatin

Newborn use only

2020

Alert	<p>High risk medicine. Antimicrobial Stewardship Team recommends this drug is listed as Restricted. Widespread use of carbapenems has been linked with increasing prevalence of infections caused by methicillin-resistant <i>Staphylococcus aureus</i> (MRSA), vancomycin-resistant enterococci (VRE), multi resistant Gram-negative organisms and <i>Clostridium difficile</i>. NOT the preferred carbapenem in neonates because of possible adverse effects. Should be avoided in preterm neonates because of cilastatin accumulation.</p>															
Indication	<p>Non-CNS sepsis caused by susceptible organisms including enteric Gram-negative rods, extended-spectrum beta-lactamase [ESBL] organisms, <i>Pseudomonas aeruginosa</i>, anaerobic organisms (including <i>Bacteroides fragilis</i>) and many Gram-positive organisms.</p>															
Action	<p>Inhibits cell wall synthesis. Cilastatin prevents renal metabolism of imipenem. Meropenem is a better choice for central nervous system infections as it attains a higher concentration in the cerebrospinal fluid and has a lower incidence of seizures than imipenem + cilastatin.</p>															
Drug type	Carbapenem antibiotic															
Trade name	Primaxin															
Presentation	500 mg vial.															
Dose	<p>Dose based on imipenem component</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Condition</th> <th style="text-align: left;">Dose</th> <th style="text-align: left;">Dosing Interval</th> <th style="text-align: left;">Infusion Time</th> </tr> </thead> <tbody> <tr> <td>Non-<i>Pseudomonas aeruginosa</i></td> <td>25 mg/kg</td> <td>12 hourly</td> <td>30 minutes</td> </tr> <tr> <td><i>Pseudomonas aeruginosa</i></td> <td>25 mg/kg</td> <td>8 hourly</td> <td>90 minutes</td> </tr> </tbody> </table>				Condition	Dose	Dosing Interval	Infusion Time	Non- <i>Pseudomonas aeruginosa</i>	25 mg/kg	12 hourly	30 minutes	<i>Pseudomonas aeruginosa</i>	25 mg/kg	8 hourly	90 minutes
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Non- <i>Pseudomonas aeruginosa</i>	25 mg/kg	12 hourly	30 minutes													
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Dose adjustment	Dose may need to be reduced in impaired renal function.															
Maximum dose	75 mg/kg/day															
Total cumulative dose																
Route	IV Infusion															
Preparation	<p>Add 9.2 mL of sodium chloride 0.9% to the 500 mg vial to make a 50 mg/mL solution FURTHER DILUTE Draw up 2 mL (100 mg of Imipenem + cilastatin) of the above solution and add 8 mL sodium chloride 0.9% to make a final volume of 10 mL with a final concentration of 10 mg/mL.</p>															
Administration	<p>Non-<i>Pseudomonas aeruginosa</i> – IV infusion over 30 minutes. <i>Pseudomonas aeruginosa</i> – IV infusion over 90 minutes.</p>															
Monitoring	<p>Renal function. Dose may need to be reduced in impaired renal function. Blood count and liver function.</p>															
Contraindications	<p>Hypersensitivity to penicillins, cephalosporins or carbapenems. CNS infections.</p>															
Precautions	Seizures can occur in infants with renal impairment or central nervous system infection.															
Drug interactions	<p>Ganciclovir – risk of seizures. Do not give concomitantly unless the potential benefits outweigh the risks. Valproate – results in decreased concentrations of valproate.</p>															
Adverse reactions	<p>Seizures, impaired renal function, impaired liver function, tachycardia, local phlebitis, urticaria, diarrhoea, pseudomembranous colitis (<i>Clostridium difficile</i>) and vomiting.</p>															
Compatibility	<p>Fluids: Glucose 5%, glucose 10%, sodium chloride 0.9%</p> <p>Y-site: Aciclovir, amifostine, anidulafungin, aztreonam, caspofungin, cisatracurium besilate, fosfarnet, granisetron, linezolid, remifentanyl, tigecycline, zidovudine.</p>															
Incompatibility	<p>Fluids: Hartmann's.</p> <p>Y-site: Amiodarone, amoxicillin, azathioprine, azithromycin, ceftriaxone, chlorpromazine, daptomycin, fluconazole, ganciclovir, haloperidol lactate, metaraminol, midazolam, milrinone, mycophenolate mofetil, palonosetron, pethidine, sodium bicarbonate, vecuronium.</p>															
Stability	Reconstituted or diluted solution stable for 4 hours below 25°C or for 24 hours at 2–8°C.															

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Storage	Store vial below 25°C.
Excipients	Sodium bicarbonate
Special comments	Solutions of imipenem + cilastatin range from colourless to yellow. Variations of colour within this range do not affect the potency.
Evidence	Refer to full version.
Practice points	Refer to full version.
References	Refer to full version.

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Original 1.0	05/12/2015
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