

## ANTIBIOTICS

*Note:*

Neonatal dosing to be used till post conceptual age (PCA) of 44 weeks.

PCA is equivalent to gestational age + postnatal age. For example, for a baby born at 28 weeks gestation and is now 21 days old, the PCA would be 31 weeks.

For PCA above 45 weeks, please refer to the dosing indicated for child.

All routes are intravenous (IV) unless otherwise specified.

Drug	Dosing	Remarks
Amikacin	<p><b>Neonates</b></p> <p>PCA <math>\leq</math> 29 wk:</p> <p style="padding-left: 40px;"><math>\leq</math> 7 days: 18mg/kg q48h</p> <p style="padding-left: 40px;">8-28 days: 15mg/kg q36h</p> <p style="padding-left: 40px;"><math>\geq</math> 29 days: 15mg/kg q24h</p> <p>PCA 30-34 wk:</p> <p style="padding-left: 40px;"><math>\leq</math> 7 days: 18mg/kg q36h</p> <p style="padding-left: 40px;"><math>\geq</math> 8 days: 15mg/kg q24h</p> <p>PCA 35-44wk: 15mg/kg q24h</p> <p><b>Child:</b> 15-22.5mg/kg/day q8-12h</p> <p><b>Adult:</b> 15mg/kg/day q8-12h (max 1.5g/day)</p>	<p>Infuse over 30-60min.</p> <p><u>Therapeutic levels:</u></p> <p>Target peak: 30-40 <math>\mu</math>g/ml</p> <p>Target trough: <math>&lt;10\mu</math>g/ml</p> <p>(*ideal trough: 4-5<math>\mu</math>g/ml, especially if existing nephrotoxic drugs or poor renal function)</p>
Ampicillin	<p>Neonates: 50mg/kg/dose, interval depends on PMA</p> <p style="padding-left: 40px;">PCA <math>\leq</math> 29 wk: (<math>\leq</math> 28 days: q12h, <math>&gt;28</math> days: q8h)</p> <p style="padding-left: 40px;">PCA 30-36wk: (<math>\leq</math> 14 days: q12h, <math>&gt;14</math> days: q8h)</p> <p style="padding-left: 40px;">PCA 37-44wk: (<math>\leq</math> 7 days: q12h, <math>&gt;7</math> days: q8h)</p>	

	Child:	25-37.5mg/kg/dose q6h 50mg/kg for single dose cardiac prophylaxis	
Augmentin	Neonates:	<7 days: 30mg/kg q12h (based on Co-amoxiclav) ≥7 days: 30mg/kg q8h (based on Co-amoxiclav)	
	Child:	30mg/kg/dose q8h (up to 40mg/kg/dose q8h)	
Cefazolin	Neonates:	25mg/kg/dose < 2kg: (≤7 days q12h; >7 days q12h) > 2kg: (≤7 days q12h; >7 days q8h)	
	Child:	25-30mg/kg/dose q6-8h	
Ceftazidime	Neonates:	50mg/kg/dose, interval depends on PMA PCA ≤ 29 wk: (≤ 28 days: q12h, >28 days: q8h) PCA 30-36wk: (≤ 14 days: q12h, >14 days: q8h) PCA 37-44wk: (≤ 7 days: q12h, >7 days: q8h)	

	Child:	30-50mg/kg/dose q8h for mild-moderate infections 60-100mg/kg/dose q8h for severe infections/ meningitis	
Ceftriaxone	Neonates:	<2kg: 50mg/kg/dose q24h ≥2kg: (≤7 days) 50mg/kg/dose q24h (>7 days) 75mg/kg/dose q24h	
	Child:	25-50mg/kg q12-24h 100mg/kg/day q12-24h for meningitis (max 2g q12h)	
Ciprofloxacin	Child:	10-15mg/kg/dose q12h	
Clindamycin	Neonates:	5mg/kg/dose, interval depends on PMA PCA ≤ 29 wk: (≤ 28 days: q12h, >28 days: q8h) PCA 30-36wk: (≤ 14 days: q12h, >14 days: q8h) PCA 37-44wk: (≤ 7 days: q12h, >7 days: q8h)	
	Child:	5mg/kg/dose q6-8h	

	Adult:	600mg-1.2g/day	
Cloxacillin	Neonates:	$< 2\text{kg}$ : ( $\leq 7$ days) 50mg/kg q12h $(> 7$ days) 50mg/kg q8h $> 2\text{kg}$ : ( $\leq 7$ days) 50mg/kg q8h $(> 7$ days) 50mg/kg q6h  Child: 25mg/kg/dose q6h 50mg/kg/dose q6h in meningitis	
Erythromycin	Neonates:	10mg/kg/dose $< 1\text{kg}$ : ( $\leq 14$ days q12h; 15-28 days q8h) $\geq 1\text{kg}$ : ( $\leq 7$ days q12h; 8-28 days q8h)	IV infusion over 30-60min.
	Child:	10-12.5mg/kg/day q6h	
Gentamicin	<b>Neonates</b> PCA $\leq 29$ wk:		Infuse over 30-60min. Do not mix with ampicillin.

	<p> <math>\leq 7</math> days: 5mg/kg q48h  8-28 days: 4mg/kg q36h  <math>\geq 29</math> days: 4mg/kg q24h </p> <p>PCA 30-34 wk:</p> <p> <math>\leq 7</math> days: 4.5mg/kg q36h  <math>\geq 8</math> days: 4mg/kg q24h </p> <p>PCA 35-44wk: 4mg/kg q24h</p> <p>Child: 2-2.5mg/kg q8h 5mg/kg q24h for uncomplicated UTI over 1month old</p>	<p><u>Therapeutic levels:</u></p> <p>Target peak: 8-10 <math>\mu\text{g/ml}</math></p> <p>Target trough: <math>&lt;2 \mu\text{g/ml}</math> (ideal trough: <math>&lt;1 \mu\text{g/ml}</math>, especially if nephrotoxic drugs or poor renal function)</p>
Imipenem	Child: 15-25mg/kg q6h (max 4g/day)	May cause convulsions, adjust dose in renal dysfunction
Meropenem	<p>Neonate: 20mg/kg/dose, interval depends on PMA</p> <p>PCA <math>&lt; 32\text{wk}</math>: (<math>\leq 14</math> days: q12h, <math>&gt;14</math> days: q8h)</p> <p>PCA <math>\geq 32\text{wk}</math>: (<math>\leq 7</math> days: q12h, <math>&gt;7</math> days: q8h)</p>	

	Child:	20mg/kg q8h 40mg/kg q8h for meningitis	
Metronidazole	Neonate:	Loading dose 15mg/kg Maintenance dose 7.5mg/kg/dose, dosing interval depending on PCA PCA ≤ 29 wk: (≤ 28 days: q48h, >28 days: q24h) PCA 30-36wk: (≤14 days: q24h, >14 days: q12h) PCA 37-44wk: (≤7 days: q24h, >7 days: q12h)	
	Child:	7.5-10mg/kg q6-8h	
Piperacillin/ Tazobactam (Tazocin)	Neonates:	50-100mg (piperacillin) /kg/dose PCA ≤ 29 wk: (≤ 28 days: q12h, >28 days: q8h) PCA 30-36wk: (≤14 days: q12h, >14 days: q8h) PCA 37-44wk: (≤7 days: q12h, >7 days: q8h)	
	Child:	<2 months: 80mg Piperacillin /kg/dose q8h ≥2 months: 80mg Piperacillin /kg/dose q6h	

Vancomycin	<p>Neonates: 15mg/kg/dose</p> <p>PCA <math>\leq</math> 29 wk: (<math>\leq</math> 14 days: q18h, &gt;14 days: q12h)</p> <p>PCA 30-36wk: (<math>\leq</math>14 days: q12h, &gt;14 days: q8h)</p> <p>PCA 37-44wk: (<math>\leq</math>7 days: q12h, &gt;7 days: q8h)</p> <p>Child: 15mg/kg/dose q6h</p> <p>Adult: 2-4g/day q6-12h</p>	<p>Each dose to be infused over 60min.</p> <p><u>Therapeutic levels:</u></p> <p>Peak: 30-40 <math>\mu</math>g/ml</p> <p>Trough: 15-20 <math>\mu</math>g/ml (complicated infections); 10-15 <math>\mu</math>g/ml (others)</p>

#### References:

1. KKH Neonatal Drug Dosing Booklet, 3<sup>rd</sup> edition (2014), available on KKH intranet
2. KKH Paediatric Medicine Clinical Guidelines, Appendix - Drugs – Infections (March 2015), available on KKH intranet