

Antibiotic Dosing Regimens for Neonates in the NICU^a: Dosage (mg/kg/**dose**) and Intervals of Administration

	Chronologic Age ≤ 28 days					Chronologic Age > 28 days
	Weight < 1200 gm	Weight 1200 – 2000 gm		Weight > 2000 gm		
Drug	PNA 0 – 4 weeks ^b	PNA 0– 7 days ^b	PNA 8-28 days ^b	PNA 0 – 7 days ^b	PNA 8-28 days ^b	
Acyclovir	20 Q 12 hr ^c	20 Q 12 hr	20 Q 8 hr	20 Q 8 hr	20 Q 8 hr	20 Q 8 hr
Amphotericin B Deoxycholate	1 Q 24 hr	1 Q 24 hr	1 Q 24 hr	1 Q 24 hr	1 Q 24 hr	1 Q 24 hr
Ampicillin ^d	100 Q 12 hr	100 Q 12 hr	100 Q 8 hr	100 Q 8 hr	100 Q 6 hr	100 Q 6 hr
Cefazolin	25 Q 12 hr	25 Q 12 hr	25 Q 12 hr	25 Q 12 hr	25 Q 8 hr	25 Q 8 hr
Cefotaxime	50 Q 12 hr	50 Q 12 hr	50 Q 8 hr	50 Q 12 hr	50 Q 8 hr	50 Q 8 hr
Ceftazidime	50 Q 12 hr	50 Q 12 hr	50 Q 8 hr	50 Q 12 hr	50 Q 8 hr	50 Q 8 hr
Clindamycin	5 Q 12 hr	5 Q 12 hr	5 Q 8 hr	5 Q 8 hr	5 Q 6 hr	7.5 Q 6 hr
Fluconazole ^e	12 Q 24 hr	12 Q 24 hr	12 Q 24 hr	12 Q 24 hr	12 Q 24 hr	12 Q 24 hr
Imipenem	25 Q 12 hr	25 Q 12 hr	25 Q 8 hr	25 Q 12 hr	25 Q 8 hr	25 Q 8 hr
Meropenem ^f	20 Q 12 hr	20 Q 12 hr	20 Q 8 hr	20 Q 8 hr	20 Q 8 hr	20 Q 8 hr
Metronidazole	7.5 Q 24 hr	7.5 Q 24 hr	7.5 Q 12 hr	7.5 Q 12 hr	15 Q 12 hr	15 Q 8 hr
Oxacillin	25 Q 12 hr ^c	25 Q 12 hr	25 Q 8 hr	25 Q 8 hr	25 Q 6 hr	25 Q 6 hr
Penicillin G (GBS meningitis)	100,000 Units Q 8 hr	100,000 Units Q 8 hr	112,500 Units Q 6 hr	100,000 Units Q 8 hr	112,500 Units Q 6 hr	112,500 Units Q 6 hr
Penicillin G (Congenital syphilis)	50,000 Units Q 12 hr	50,000 Units Q 12 hr	50,000 Units Q 8 hr	50,000 Units Q 12 hr	50,000 Units Q 8 hr	50,000 Units Q 8 hr
Piperacillin/Tazobactam	75 Q 12 hr	75 Q 12 hr	75 Q 8 hr	75 Q 12 hr	75 Q 8 hr	75 Q 6 hr

a = Infants > 44 weeks postmenstrual age (4 weeks corrected age) should be dosed according to infant guidelines

b = PNA (postnatal age)

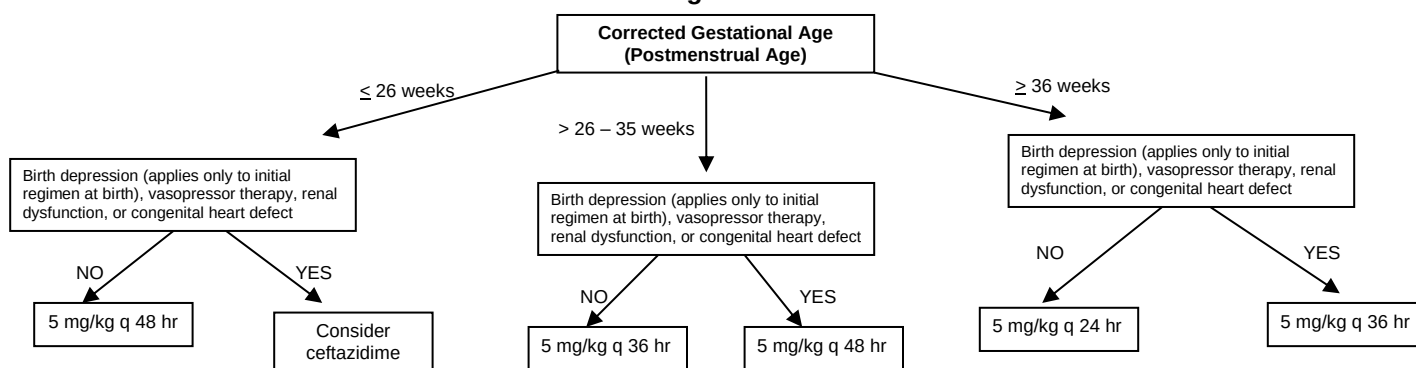
c = Changed to Q 8 hr dosing when patient is PNA ≥ 15 days

d = For confirmed GBS meningitis, higher dosage may be required

e = For treatment of candidemia/candidiasis, load with 25 mg/kg/dose; adjust for renal dosing if serum creatinine ≥ 1.3 mg/dL

f = Higher dosage may be required for meningitis

Gentamicin Dosing Guidelines for the NICU



** Birth depression is defined by one of the following: five minute Apgar score ≤ 5, cord pH ≤ 7.15, or HCO₃ on baby's first blood gas ≤ 15

** Renal dysfunction is defined by serum creatinine ≥ 1.5 mg/dl and / or urine output < 1 ml/kg/hr

** Vasopressor therapy includes dopamine, dobutamine, and epinephrine.

Vancomycin Dosing Guidelines for the NICU

Dosage (mg/kg/ dose) by Postmenstrual Age			
≤ 26 weeks	27 - 34 weeks	35 - 42 weeks	≥ 43 weeks
15 Q 18 hr	15 Q 12 hr	15 Q 8 hr	15 Q 6 hr

Therapeutic Drug Level Monitoring Guidelines

- If planned length of therapy is ≤ 72 hours (i.e. R/O sepsis) and patient does NOT have renal dysfunction, then NO LEVELS ARE NEEDED
- If planned length of therapy is > 72 hours (i.e. clinical or culture-proven sepsis) and the patient is on:
 - **Gentamicin**, then a TROUGH LEVEL should be ordered. The **trough** should be drawn within 30 minutes prior to the dose. May consider obtaining PEAK LEVEL in certain clinical circumstances. Consult NICU PharmDs.
 - Goal gentamicin levels: peak = 7 – 12 mcg/mL, trough ≤ 1 mcg/mL
 - **Vancomycin**, then a TROUGH LEVEL should be ordered. The **trough** should be drawn within 30 minutes prior to the dose.
 - Goal vancomycin trough level: 10-20 mcg/mL

References

Bradley JS, Nelson JD. Nelson's Pediatric Antimicrobial Therapy. 23rd ed; 2017
 Prober CG, et al. The use of antibiotics in neonates weighing less than 1200 grams. *Pediatric Infect Dis J* 1990;9:111.
 Ohler KH, et al. Use of higher dose extended interval aminoglycosides in a neonatal intensive care unit. *Amer J Perinatol* 2000;17:285.
 Taketomo CK, Hodding JH, Kraus DM. Pediatric Dosage Handbook. 24th ed; 2017-2018.