MassGeneral Hospital *for* Children Neonatal (≤ 1 month old) Dosing Guidelines

■ Antibiotics and Antivirals

Acyclovir

<35 wks 20 mg/kg/dose q12 hr IV (ID eval. recommended) ≥35 wks 20 mg/kg/dose q8 hr IV

Ampicillin	≤7 days old		>7 days old
≤2000 g	50 mg/kg/dose q12hr IV	<1200 g	50 mg/kg/dose q12hr IV
>2000 g	50 mg/kg/dose q8hr IV	1200-2000 g	50 mg/kg/dose q8hr IV
		>2000 g	50 mg/kg/dose q6hr IV

GBS meningitis dosing

75mg/kg/ dose q8hr 75mg/kg/dose q6hr

Use GBS meningitis dosing until CSF Cx available or if LP is not done. IF Cx negative reduce dose

Cefazolin	≤7 days old		>7 days old
	20 mg/kg/dose q12 hr IV	≤2000 g	20 mg/kg/dose q12 hr IV
		>2000 g	20 mg/kg/dose q8 hr IV

Cefepime: not indicated for meningitis

≤14 day old: 30mg/kg/dose q12hr IV > 14 day old: 50mg/kg/dose q12hr IV

Cefotaxime recommended for suspected or confirmed non-pseudomonal sepsis with CNS infection

0-4 weeks: <1200 g: 50mg/kg/dose q 12 hours

	≤7 days old		>7 days old
1200-2000 g	50 mg/kg/dose q 12 hr IV	1200-2000 g	50 mg/kg/dose q 8hr IV
>2000 g	50 mg/kg/dose q 8-12 hr IV	>2000 g	50 mg/kg/dose q 6-8hr IV

Gentamicin peak= 8-12 mcg/mL trough<2mcg/mL.

<35 wks 3 mg/kg/dose q24 hr IV ≥35 wks 4 mg/kg/dose q24 hr IV

Metronidazole 0-4 weeks <1200 g 7.5mg/kg/dose q48hr IV

	≤7 days old		>7 days old
1200-2000 g	7.5mg/kg/dose q 24hr IV	1200-2000 g	7.5mg/kg/dose q12hr IV
>2000 g	7.5mg/kg/dose q12hr IV	>2000 g	15mg/kg/dose q12hr IV

Oxacillin	≤7 days old		>7 days old
≤2000 g	25 mg/kg/dose q12 hr IV	<1200 g	25 mg/kg/dose q12 hr IV
>2000 g	25 mg/kg/dose q8 hr IV	1200-2000 g	25 mg/kg/dose q8 hr IV
		>2000 g	25mg/kg/dose q6 hr IV

Vancomycin refer to Vancomycin Use Reduction Protocol for the NICU

	≤7 days old		>7 days old
<1200 g	15 mg/kg/dose q24 hr IV	<1200 g	15 mg/kg/dose q24 hr IV
1200-2000 g	15 mg/kg/dose q12 hr IV	1200-2000 g	15 mg/kg/dose q8-12 hr IV
>2000 g	15 mg/kg/dose q12 hr IV	>2000 g	15 mg/kg/dose q8 hr IV

■ Analgesics and Narcotics

Acetaminophen	10-15 mg/kg/dose q6-8 hr PO/PR
Morphine	continuous: 0.01 mg/kg/hr IV
	intermittent: 0.05-0.1 mg/kg q4 hr IV
	Morphine 1mg IV ≅ 2mg PO
Fentanyl	continuous: 0.5-1 mcg/kg/hr IV
	intermittent: 1-4 mcg/kg/dose q2-4 hr IV
	Fentanyl 1 **mg** IV = Morphine 20 mg IV (note: Fentanyl conversion is in milligrams)

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Naloxone Opioid-induced respiratory depression**:** 0.01 mg/kg/dose IV repeat PRN

Abstinence Syndrome Refer to guidelines for further information

Morphine Sulfate Oral Solution 0.4mg/mL More than one concentration available use caution

0.04mg/kg/dose PO q4 hr; ⇑ by 0.02mg/kg/dose q4 hr until desired response Max = 0.4-0.8mg/kg/24hr

■ Antihypertensives

Hydralazine	0.1-0.2 mg/kg/dose q4-6hr IV/IM or 0.75-1 mg/kg/day PO divided q6-12 hr
Captopril	≤ 7 days old & premature: 0.01 mg/kg/dose q8-12 hr PO
	>7 days old: 0.05-0.1 mg/kg/dose q8-24hr PO and titrate to response

■ Apnea of Prematurity

Caffeine Citrate	20 mg/kg IV/PO load; then 5-10 mg/kg/dose q24 hr IV/PO
	Rebolus with 10 mg/kg IV/PO if apnea recurs.

■ Cardiovascular

Adenosine	0.05 mg/kg rapid IV push followed by NS flush ; ⇑ by 0.05 mg/kg q2 min IV
	Max = 0.25 mg/kg or 12 mg/dose
Alprostadil (PGE1)	0.05 – 0.1 mcg/kg/minute IV; tirate to therapeutic response
	Maintenance 0.01-0.4 mcg/kg/minute
Amiodarone	5**mg**/kg IV load then 5-15mcg/kg/min. discuss with cardiology
Dopamine	1-3 mcg/kg/min IV (renal); 5-20 mcg/kg/min IV (inotropic range)
Dobutamine	2-20 mcg/kg/min IV
Esmolol	100 – 500 mcg/kg over 1-2 min then 100-200mcg/kg/minute continuous infusion titrate
Epinephrine	0.05 - 0.1 mcg/kg/min IV
Ibuprofen lysine	separate each dose by 24 hours
Day 1	10 mg/kg/dose IV x1
Day 2	5 mg/kg/dose IV x1
Day 3	5 mg/kg/dose IV x1
Lidocaine	0.5-1 **mg**/kg IV bolus can repeat q 10 min to total of 5mg/kg then 20-50 mcg/kg/min IV
Milrinone	50-75mcg/kg load then 0.25- 0.75mcg/kg/min IV
Norepinephrine	0.05-0.1 mcg/kg/min IV

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■ Diuretics	
Furosemide	1-2 mg/kg/dose q 12-24 hr IV/IM or 2-4mg/kg/dose q 12-24 hr PO
Spironolactone	0.5-1.5 mg/kg/dose q 12-24 hr PO
Chlorothiazide	1-4 mg/kg/dose q12 hr IV or 10-20 mg/kg/dose q12 hrs PO
■ ECMO Drugs	
Heparin	Load: 200 units/kg bolus then 20-60 unit/kg/hr IV adjust to ACT values
Protamine	1 mg/100 units heparin given in the previous 4 hours. Max = 50mg/10 min
■ GI / Nutrition/Metabolic	
Dextrose 10%	2-4 mL/kg
Ferrous sulfate	2-4mg/kg/dose daily or 1-2mg/kg/dose PO BID (dose as elemental)
Insulin Regular	0.01 - 0.1 unit/kg/hr (start at low end) also see NICU administration policy
Insulin Regular	Hyperkalemia: 0.05 – 0.1 units/kg/dose
Ranitidine	<36wks GA 0.5 mg/kg/dose q12hr IV <2 wks 0.75 mg/kg/dose q12 hr IV or 1 mg/kg/dose q12 hr PO
	≥2 wks 1-1.25 mg/kg/dose q8 hr IV or 1-2mg/kg/dose q12 hr PO
Metoclopramide	0.1–0.2 mg/kg/dose q6-8 hr PO/IV
■ Immunizations	Please see AAP or NICU guidelines for current recommendations
DTaP / IPV / HBIG / Hib / Prevnar	0.5 mL IM
Hepatitis B	10 mcg IM Engerix B®
Palivizumab	15 mg/kg IM Synagis®
■ Neurology	
Phenobarbital	15-20 mg/kg IV/PO (load) in 1-2 doses; then 1.5-2.5 mg/kg/dose q12 hr IV/PO
Fosphenytoin	15-20 mg PE/kg IV (load); then 2.5 mg PE/kg/dose q12 hr IV
	PE=phenytoin equivalents
Lorazepam	0.05-0.1 mg/kg/dose IV; may repeat in 10-15 min for status epilepticus
■ Sedatives / Anesthetics / Paralytics	
Chloral Hydrate	25-40 mg/kg/dose PO for 1 dose; repeat with caution
Lorazepam	0.05-0.1 mg/kg/dose IV/PO q4-8 hr PRN
Midazolam	For conscious sedation. Must be mechanically ventilated.
	continuous 0.02- 0.06 mg/kg/hr IV
	intermittent 0.05-0.15mg/kg q2-4 hr PRN
Pancuronium	0.05- 0.1 mg/kg/dose IV Q30-60 min. Continuous infusion 0.05- 0.1 mg/kg/hr IV
Vecuronium	0.1 mg/kg/dose IV Q30-60 min.
■ Resuscitation	
Oxygen	100% O2
Epinephrine	0.1-0.3 mL/kg/dose (1:10,000) =0.01-0.03 mg/kg/doseIV
	If no IV access: 0.3-1 mL/kg/dose (1:10,000) = 0.03-0.1mg/kg/dose ETT
Volume Expanders	10–20 mL/kg/doseIV (NS; 5% albumin; ringer's lactate)
Sodium Bicarbonate	1-2 mEq/kg/dose IV; repeat PRN
Naloxone total reversal	0.1 mg/kg/dose IV/IM repeat PRN (ETT not recommended)
Atropine	0.02 mg/kg/dose IV/IM/ETT (max 0.5 mg)
Calcium Gluconate	100 mg/kg/dose IV slow
Defibrillation	V-Fib: 2 watt-sec/kg (asynchronous), repeat 4 watt-sec/kg
Cardioversion	SVT or V-Tach: 0.5 watt-sec/kg (synchronous), repeat 2 watt-sec/kg
■ Respiratory	
Albuterol	1.25 – 2.5 mg in 2.5 mL NS nebulizer q6hr
Poractant Alfa (Curosurf®)	2.5mL/kg can repeat with 1.25mL/kg q12hr . Total Max = 5mL/kg
Ipratropium	25 mcg/kg/dose TID nebulizer
Aerosolized Epinephrine	(1:1000 solution) 0.25-0.5 mL/kg (max 5 mL) in 3 mL NS nebulizer
■ Steroids	
Dexamethasone	Discuss use with attending neonatologist
BPD dosing	IV/PO: 0.1 mg/kg/dose q12 hr x 3 days, then 0.05 mg/kg/dose q12hr x 3 days,
	then 0.025 mg/kg/dose q12 hr x 3-4 days; or individualize taper to patient's needs.
Airway edema	0.25 mg/kg/dose IV/PO 4 hr before extubation then q8 hr x 3 doses.
Hydrocortisone	
Stress dose	1-2 mg/kg/dose IV q8 hr

Medication Safety Approval Committee — MGH 1811

This information is not intended to replace clinical judgement and complete prescribing information.

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NICU 617.724.4310 Transports 617.724.HELP Newborn Svs 617.724.9040

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