

University of Michigan – Department of Pharmacy Services

IV Guidelines for Brandon Newborn ICU

Drug	Patient Weight (Kg)	Standard Concentrations (CL)=central line	Load	Usual Range	Titration “do not titrate” = no changes in dose without provider order “titrate...” = bedside RN may adjust dose according to specific parameters	Comments
ALPROSTADIL (PGE)	1-5 Alt conc	100 mcg/33.3 mL (3mcg/mL) 200mcg/33.3mL (6mcg/mL) D5W, D10W , NS	NO	0.03-0.2mcg/kg/min	Do not titrate	See PGE dose calculation sheet 6mcg/mL concentration use “alprostodil non-standard” syringe pump entry
CISATRACURIUM	1-9	50 mg/50 mL (1mg/mL) D5W , NS	May give 0.1 mg/kg and then initiate continuous infusion	1-10mcg/kg/min	AS per patient activity/movement	*Neuromuscular blockade*
DEXMEDETOMIDINE	1-9	80mcg/20mL (4mcg/mL) D5W, NS	Due to potential side effects, loading doses are not currently recommended	0.2-2mcg/kg/hr	Do not titrate	Place dexmedetomidine drip in stopcock farthest from TPN if running via same lumen
DOPAMINE	1-9	50mg/50mL (1mg/mL) 100mg/50mL (2mg/mL) 150mg/50mL (3mg/mL) 300mg/50 mL (6mg/mL) CL D5W, D10W, NS	NO	2-20mcg/kg/min	Start at 2mcg/kg/min, titrate every 5-10 minutes by 1-3mcg/kg/min to maintain MAP within prescribed range. Max is 20mcg/kg/min	

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DOBUTAMINE	1-9	50mg/50mL (1mg/mL) 100mg/50mL (2mg/mL) 150mg/50mL (3mg/mL) 250mg/50mL (5mg/mL) CL D5W, D10W, NS	NO	5- 20mcg/kg/min	Start at 5mcg/kg/min, titrate every 5-10 minutes by 2.5-5mcg/kg/min to maintain MAP within prescribed range.	
	10-19 20-50 MAX	0.2mg/20mL (0.01mg/mL) 1mg/50mL (0.02mg/mL) 2 mg/50mL (0.04mg/mL) CL 6 mg/50mL (0.12mg/mL) CL D5W, D10W, NS	NO	0.01- 2mcg/kg/min	Start at 0.01mcg/kg/min, titrate every 5-10 minutes by 0.1mcg/kg/min to maintain MAP within prescribed range. Max is 2mcg/kg/min	

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EPOPROSTANOL (FLOLAN)		0.03mg/10mL (3mcg/mL) 0.1mg/20mL (5mcg/mL) 0.75mg/50mL (15mcg/mL) 1.5mg/50mL (30mcg/mL) Alternate volumes available Special concentrations available – must be approved by Pharmacy Special Flolan Diluent	NO	Starting dose: 2-3ng/kg/min Increased based on patient response Increase drip by 1-2ng/kg/min 1ng (nanogram) = 0.001 mcg	Do not titrate	Flolan syringes must be changed every 8 hours – do not have to cover syringe or IV tubing Flolan cartridges are stable for 24 hours – must be stored on ice and protected from sunlight Flolan is NOT COMPATIBLE with any other medications or IV fluids
ESMOLOL	1-9	400mg/20mL (20mg/mL) 1000mg/50mL (20mg/mL) D5W, NS	50-500mcg/kg over one minute	50-500mcg/kg/min	Start at 50 mcg/kg/min, titrate dose by 25-50 mcg/kg/minute every 20 minutes to maintain MAP within prescribed range. Max is 20mcg/kg/min	

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FENTANYL	1-50 Alt conc	1 mg/20 mL (50 mcg/mL) 0.5mg/20mL (25mcg/mL)	Load with 1-10mcg/kg <5mcg/kg over 3-5min >5mcg/kg over 5-10mi	1-10 mcg/kg/hr May titrate higher if needed (no true max dose)	Do not titrate	
FUROSEMIDE	1-5	20 mg/20 mL (1 mg/mL) 125 mg/50 mL (2.5 mg/mL) 250mg/50mL (5mg/mL) 200 mg/20 mL (10 mg/mL) D5W, D10W, NS	NO	<50kg: 0.05-1 mg/kg/hr	Do not titrate	

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INSULIN (REGULAR)	1-5	2units/20 mL (0.1unit/mL) D5W, D10W, NS	NO	Initial: <50kg: 0.05-0.1units/kg/hr MONITOR GLUCOSE LEVELS	Monitor hourly blood sugars. Titrate by 0.01units/kg/hr no more than every 2 hours to maintain ordered glucose range. Titrations more or less must be ordered by a physician.	*For insulin infusion guidelines on pediatric diabetic patients see pediatric endocrine guidelines for DKA *Dosing should not exceed 0.3units/kg/hr without notifying provider

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LABETALOL	1-9	20mg/20mL (1mg/mL) 100mg/50mL (2mg/mL) 250mg/50mL (5mg/mL) CL D5W, NS	0.2-1mg/kg over 2-3min Q10min MAX 20mg/dose	0.25-3.0mg/kg/hr >50kg: 0.5-3mg/min [5mg/mL]	Do not titrate	0.25-3 mg/kg/hour; initiate at lower end of range, and titrate up slowly (NHBPEP, 2004). One retrospective study in infants and children ≤24 months of age observed reductions in blood pressure at doses up to 0.59 mg/kg/hour with little additional benefit at higher doses (Thomas, 2011).
LIDOCAINE	1-9	200mg/50mL (4mg/mL) 2000mg/250mL (8mg/mL) CL D5W, NS	1 mg/kg over 2min, may repeat in 10 -15min x 2	20-80 mcg/kg/min	Do not titrate	Check lidocaine level Q24hr Therapeutic: 1.5-5 mcg/mL

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LORAZEPAM (ATIVAN)	1-9	4mg/20mL (0.2mg/mL) 20mg/20mL (1mg/mL) D5W, D10W, NS	0.1-0.3mg/kg IV	<50kg: 20-200 mcg/kg/hr >50kg: 1-10 mg/hr [1mg/mL conc]	Do not titrate	Doses above 10mg/hr may be used but patient should be monitored for propylene glycol toxicity (severe acidosis, osmolar gap)
MIDAZOLAM (VERSED)	1-9	4mg/20mL (0.2mg/mL) 20mg/20mL (1mg/mL) D10W, D5W, NS	0.05-2mg/kg IV	<50kg: 20-200mcg/kg/hr	Do not titrate	
MILRINONE	0.4-0.99 1-9	1mg/20mL (0.05mg/mL) 2mg/20mL (0.1mg/mL) 25mg/50mL (0.5mg/mL) D5W, D10W, NS	Neonate: 50mcg/kg over 15min	0.3-0.75mcg/kg/min	Do not titrate	
MORPHINE	1-9	4mg/20 mL (0.2 mg/mL) 20 mg/20 mL (1mg/mL) D5W, D10W, NS	0.1-0.3mg/kg IV	<50kg: 20-200mcg/kg/hr	Do not titrate	
NICARDIPINE	1-5	6mg/20mL (0.3mg/mL) 25mg/50mL (0.5mg/mL) CL D5W, NS	NO	1-5mcg/kg/min	Do not titrate	Watch peripheral infusion site for infiltration/extravasation

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NOREPINEPHRINE (LEVOPHED)	1-9	0.2mg/20 mL (0.01mg/mL) 1mg/50 mL (0.02mg/mL) 2mg/50 mL (0.04mg/mL) CL 6mg/50 mL (0.12mg/mL) CL D5W, D10W, NS	NO	0.01-2mcg/kg/min	Start at 0.05-0.1 mcg/kg/minute, titrate every 2-5 minutes by 0.01-0.02 mcg/kg/min to maintain MAP within prescribed range. Max is 2mcg/kg/min	
OCTREOTIDE	1-5 6-19 20-50	0.05mg/20 mL (2.5mcg/mL) 0.25mg/50 mL (5mcg/mL) 0.5mg/50 mL (10mg/mL) D5W, NS	NO	Chylothorax: 1-3 mcg/kg/hr GI bleed: 1-10 mcg/kg/hr	Do not titrate	
PANTOPRAZOLE (PROTONIX)	1-9 10-50	16mg/20mL (0.8mg/mL) 40mg/50mL (0.8mg/mL) NS	1-2mg/kg over 5 min (MAX 80mg/dose)	0.1-2mg/kg/hr	Do not titrate	Should be used for GI bleeding only
ROCURONIUM	1-50	50mg/50 mL (1mg/mL) D5W, D10W , NS	NO	7-12mcg/kg/min	Titrate 1-2mcg/kg/min per patient activity/movement.	*Neuromuscular blockade* Use only when other paralytics are not available

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VASOPRESSIN (SHOCK)	1-9	4units/20 mL (0.2unit/mL) 25units/50 mL (0.5unit/mL) D5W, NS	NO	0.0003-0.004 unit/kg/min	Do not titrate	Doses above 0.01unit/kg/min should not be used for prolonged period of time
VECURONIUM	1-9	20mg/20mL (1mg/mL) No diluents – this is straight drug	May give 0.1mg/kg IV, then initiate continuous infusion	1-2.5mcg/kg/min	Titrate 1-2mcg/kg/min AS per patient activity/movement.	*Neuromuscular blockade*

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Endorsed: Brandon Newborn ICU Joint Practice, 1/2013
Pediatric Medication Safety: 2/2013
Pharmacy & Therapeutics Committee: 2/2013

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