PEDIATRIC VITALSIGNS + EQUIPMENT SIZES

AGE	SBP(HR)	RR	Wt (kg)	ETT (cuff)	BLADE	CHEST TUBE (Fr)	NG/ FOLEY (Fr)	ART LINE (gauge)
Prem	55(160)	30-60	< 1	2.5	0	8	5	24
Prem	60(160)	30-60	1-2	3.0	0	8-10	5	24
Prem	62(160)	30-60	2-3	3.0	0-1	10	5	24
Newborn	65(150)	30-60	3.5	3.0-3.5	0-1	10-12	5-6	24
6 m	95(140)	30-60	7	3.5	1	12-16	6	22
1 y	95(125)	24-40	10	4.0	1	16-20	8	22
2-3 y	100(110)	24-40	12-14	4.5	1.5-2	16-20	8	22
4-6 y	100(100)	22-34	16-20	5.0	1.5-2	20-28	10	22
6-8 y	105(90)	18-30	22-27	5.5-6.0	2	24-32	10	22
10-12 y	115(80)	18-30	30-40	6.0-6.5	2-3	28-32	10-12	22
16 y	115(75)	12-16	>50	6.5-7.0	2-3	32-42	>12	20

PALS Hypotension: <60 mmHg (<1month), <70mmHg (1-12mos), 70 + age x 2 (1-10 years), <90mmHg (>10yrs**)**
ETT size: (age/4) + 3.5 (cuffed) or + 4 (uncuffed)
Depth of insertion (oral): 3 x Internal Diameter (cm) ETT
Weight (kg): 2 x age(yr) + 9 (<8yrs) **OR** 3 x age (yr) for > 8 yrs

WEIGHT (kg)	LMA Size	CENTRAL LINE					
	(max ETT that fits through)	Internal Jugular		Subclavian		Femoral	
		Diam (Fr)	Length (cm)	Diam (Fr)	Length (cm)	Diam (Fr)	Length (cm)
<5.0	1 (3.5)	4	5	4	8	4	8
5-10	1.5 (4)	4-5	5-8	4-5	8-12	4-5	8-12
10-20	2 (4.5	5	8	5	12	5	12
20-30	2.5 (5)	5	8	5	12	5	12
30-50	3 (6)	5	8	5	12	5	12
50-70	4 (6)	7	16	7	16	7	16
70-100	5	7-9	16	7-9	16	7-9	16

VENTILATOR

TV: 5-10mL/kg, PEEP: 4-6 cmH20
Rates: Newborn: 25-30/min, 1 yr: 15-20/min, Adolescent: 8-10/min

PERIPHERAL NERVE BLOCKS- Local anesthetic dosing (Ref Cote 2019)

TECHNIQUE	DOSE (mL/kg)	USUAL VOLUME (mL)
Head and neck block	0.05 mL/kg	3 mL
Brachial plexus block	0.2-0.3 mL/kg	10 mL
Ilioinguinal nerve block	0.075 mL/kg	4 mL
Rectus Sheath Block	0.1 mL/kg	4 mL
Femoral nerve block	0.2-0.3 mL/kg	10 mL
Sciatic nerve block	0.2-0.3mL/kg	15 mL
Digital nerves	0.05 mL/kg	2 mL

PEDIATRIC EMERGENCY DRUGS – reference CHEONET OUTREACH

Epinephrine 0.1 mg/ml (1:10,000)	***Cardiac Arrest, Bradycardia, PEA*** IV, IO: 0.01 mg/kg (0.1 mL/kg) ***Newborn Resuscitation*** IV: 0.01 mg/kg (0.1 mL/kg) ETT: 0.03 mg/kg (0.3 mL/kg) ***Hypotension*** IV: 1 mcg/kg
Epinephrine 1 mg/ml (1:1000)	***Anaphylaxis:***IM: 0.01 mg/kg q15min x 2, then q4h
Adenosine	IV: 0.1 mg/kg 1st dose; max = 6 mg IV: 0.2 mg/kg 2nd dose; max = 12 mg
Amiodarone	IV, IO: 5 mg/kg rapid bolus (for VT/VF arrest) If perfusing rhythm over 30-60 min Infusion: 5-15 mcg/kg/min
Atropine	IV, IO: 0.02 mg/kg
Dextrose 50%	IV: 0.5 g/kg (1 mL/kg)
Dextrose 25%	IV: 0.25 g/kg (1 mL/kg) (neonates)
Intralipid (fat emulsion 20%)	IV: 1mL/kg over 1min then 0.25 mL/kg/min (max 3 mL/kg)
Lidocaine (2%)	IV, IO: 1 mg/kg
Magnesium sulfate	IV: 25-50 mg/kg over 15-30 min (max 2 gm)
Naloxone	IV, IM: 0.1 mg/kg (newborn resuscitation) IV, IM: 0.01 mg/kg (opioid reversal)
Sodium bicarbonate (8.4%)	IV: 1mmol/kg (1 mL/kg) (neonates use 4.2%)
Fluid bolus (NS = 0.9% NaCl)	IV: 20 mL/kg
Defibrillation	2 J/kg, then 4 J/kg (ASYNCHRONOUS)
Cardioversion	0.5-1 J/kg then double (SYNCHRONOUS)

CARDIAC DRUGS

Diltiazem	IV: 0.25 mg/kg (max 20mg); 0.05-0.15 mg/kg/hr
Dopamine	IV: 1-20 mcg/kg/min (max 50 mcg/kg/min)
Dobutamine	IV: 2.5-15 mcg/kg/min (max 40 mcg/kg/min)
Enalaprilat	IV: 5-10 mcg/kg/dose q 8-24 (adults: 0.625-1.25 mg/dose)
Ephedrine	IV: 0.1-0.3 mg/kg
Esmolol	IV: 0.1- 0.5 mg/kg; 100- 500 mcg/kg/min (max 1000 mcg/kg/min)
Epinephrine	IV: 0.01-1 mcg/kg/min (see emerg drugs for boluses)
Hydralazine	IV: 0.1-0.2 mg/kg q 4-6 hr (max 20mg/dose)
Isoproterenol	0.05-2 mcg/kg/min
Labetalol	IV: 0.2-1 mg/kg (max 20mg/dose); 0.25-1 mg/kg/hr
Lidocaine	IV: 1 mg/kg (anti-arrhythmic); 10-50 mcg/kg/min
Milrinone	IV: 50 mcg/kg over 15 min then 0.25-0.75 mcg/kg/min
Nitroglycerine	IV: Initiate 0.25-0.5 mcg/kg/min and titrate by 0.5-1 mcg/kg/min q 3-5 min PRN. Usual dose:0.5-10 mcg/kg/min (max 20 mcg/kg/min)
Nitroprusside	IV: 0.3-0.5 mcg/kg/min (protect from light, watch for cyanide toxicity) Titrate every few minutes to effect. Usual dose 3 mcg/kg/min (rarely ≥4. Max dose 8-10 mcg/kg/min
Norepinephrine	IV: 0.01-0.1 mcg/kg/min (max 2mcg/kg/min)
Phentolamine	IV/IM: 0.05-0.1 mg/kg (max single dose 5mg)
Phenylephrine	IV: 1-2 mcg/kg; 0.1-0.5 mcg/kg/min
Potassium (KCL)	IV: 0.25-0.5mmol/kg/hr (peripheral)
Procainamide	IV: 15-18 mg/kg over 1hr; 20-80 mcg/kg/min (max 2gm/day)
Propranolol	IV: 0.05-0.1 mg/kg (max 1mg infants, 3mg children)
Alprostadil (prostaglandin E1)	IV: 0.01-0.1 mcg/kg/min
Sildenafil	PO: 0.25-1 mg/kg
Vasopressin	IV: 0.3- 2 milliunits/kg/min (for shock)

ANTICONVULSANTS

Lorazepam	IV: 0.05-0.1 mg/kg (max = 4 mg), PR: 0.1 mg/kg
Midazolam	IV: 0.15 mg/kg then 50 mcg/kg/h infusion
Diazepam	IV: 0.05-0.3mg /kg (max <5yrs = 5mg, >5yrs = 10mg)
Phenobarbital	IV: 10-20 mg/kg over 60 min (max = 800 mg)
Phenytoin	IV: 20 mg/kg over 20-60 min (max =1000 mg)
Fosphenytoin	IV: 20 mg PE/kg over 30 min (max 1000 mgPE) *** dose, Concentration, and infusion rates are expressed as phenytoin sodium equivalents (PE): 75 mg/ml fosphenytoin = 50 mg PE/ml

BRONCHODILATORS (Asthma exacerbation)

Epinephrine (1 mg/ml)	< 5 kg 0.5 mg/kg/dose; ≥ 5 kg 2.5-5 mg/dose nebulized (dilute to 2.5 or 3 ml in NS for smaller doses)
Hydrocortisone succinate	IV: 4-6 mg/kg q4-6h for status asthmaticus
Ipratropium (250 mcg/mL)	250-500 mcg by nebulizer q 20min x 3 Inhaler: 4-8 puffs
Magnesium sulfate	IV: 25-50 mg/kg over 10-20 min
Methylprednisolone	IV: 1-2 mg/kg (max 250mg) for asthma
Prednisone/Prednisolone	PO: 1-2 mg/kg/day (max = 60 mg)
Salbutamol MD (100mcg/puff)	4-8 puffs q 20 min x 3 then PRN
Salbutamol (5 mg/mL)	0.15 mg/kg in 3 mL NS by nebulizer q 20min x 3 doses then PRN (min dose 2.5mg)

MISCELLANEOUS DRUGS

Calcium chloride (10%)	IV: 10-20 mg/kg (0.1-0.2 mL/kg, max 1gm)
Calcium gluconate (10%)	IV: 60-100 mg/kg for CPR, 25-50mg/kg for mod-severe hypocalcemia (max 1gm)
Dantrolene	IV: 2.5 mg/kg initial dose, repeat prn to max of 10mg/kg/day
Desmopressin (DDAVP)	0.3 mcg/kg (max 20mcg)
Furosemide	IV, PO: 0.5-2 mg/kg (infants), max 6 mg/dose (older children), adults 20-40mg/dose, max 80mg single dose
Glucagon	IV, IM, SC: 0.02-0.03 mg/kg, >20kg: 0.5-1mg
Glycopyrrolate	IV: 4-10 mcg/kg (control of secretions)
Hydrocortisone succinate	*Acute adrenal insufficiency* IV: 50-100 mg/m^2 x 1, then 25mg/m^2 /dose IV q 6hrs (see CHEOnet parenteral manual for BSA calculation) *Major stress dose/shock* IV: 2 mg/kg (max = 100 mg) then 1 mg/kg q 6 hr
3% Hypertonic saline (ICP)	IV: 1-2 ml/kg/dose over 5 min q 12h. An initial bolus of 2-4 ml/kg can be administered PRN. Hold if serum osmolarity > 305 mOsm/L.
Insulin (Regular)	*DKA* - IV: infusion: 0.1 units/kg/hr (range 0.05-0.3 units/kg/hr *Hyperkalemia*-IV: 0.1 units/kg/dose (max 10 units IV over 5 minutes) **+** D10W 5 ml/kg/dose IV over 2-5 min at same time as insulin
Kayexalate (sodium polystyrene)	PO/PR: 1gm/kg/dose q 6hrs
Mannitol	IV: 0.5-1 g/kg
Ranitidine	IV: 1.5 mg/kg
Tranexamic acid	IV: 10 mg/kg then 5mg/kg/hr (craniosynostosis) IV: 30 mg/kg over 15min then10mg/kg/hr (spine)
Vitamin K (phytonadione)	0.5-5 mg IV (5mg for significant bleeding)

BLOOD PRODUCTS (**CMV negative/irradiated for NICU/Oncology patients)

PRBCs: 5-10 mL/kg **	Increases Hct 3% or Hb 10 g/L
FFP: 10-15mL/kg	Factor levels ↑ 15-20%
Cryoprecipitate: 2 mL/kg	Increases Fibrinogen 0.5 g/L
Platelets: 5-10 mL/kg (child) 15 mL/kg (neonate)	Increases Platelets 30-40 x 10^9/L

SPINAL ANESTHESIA (Ref Cote 2009) HB = hyperbaric

DRUG	DOSE	RANGE
NEONATE/INFANT		
0.5% Bupivicaine	0.8 mg/kg	0.5-1 mg/kg
0.75% Bupivicaine HB	0.6 mg/kg	0.5-1 mg/kg
CHILD (2mos-12yrs)		
0.5% Bupivicaine		0.3-0.5 mg/kg
IT Morphine (PF)	Max 500mcg	2-10mcg/kg/dose

Caudal Morphine (PF): 25-50mcg/kg/dose (max 5mg)

HYPNOTICS/SEDATIVES

Procedural Sedation	
Dexmedetomidine	Loading dose: 0.5mcg/kg, Infusion: 0.2-0.7mcg/kg/hr
Ketamine	IV 0.5-1 mg/kg then 0.25-0.5 mg/kg as needed
Lorazepam	PO/SL: 0.05 mg/kg/dose (max = 2 mg) IV: 0.01-0.05 mg/kg
Midazolam	PO: 0.5 mg/kg (max = 20 mg) IV: 0.05-0.1 mg/kg (max = 2 mg)
Propofol	IV: 1-2 mg/kg then 0.5-1 mg/kg as needed
Induction of Anesthesia	
Etomidate	IV: 0.2-0.3mg/kg
Ketamine	IV: 1-2 mg/kg; IM: 3-5 mg/kg
Propofol	IV: 2.5-5 mg/kg Infusion: 50-300 mcg/kg/min

ANALGESIA

Fentanyl	IV: 0.5-2 mcg/kg (PACU 0.5mcg/kg), IV: 0.5-2 mcg/kg/hr infusion
Ketorolac	IV: 0.5mg/kg q 6hrs (max 30mg), caution <1yr
Morphine	IV: 0.05-0.1 mg/kg q2-4h (PACU 20-40mcg/kg) IV: 10-40 mcg/kg/h infusion PO: 0.2-0.3 mg/kg PO q 3-4 hrs PRN
Hydromorphone	IV: 10-20 mcg/kg q 2-4h PRN (PACU 4-8mcg/kg) PO: 30-80 mcg/kg/dose q 3-4 hr PRN
Remifentanil	IV: 0.5-1 mcg/kg bolus or 0.1-0.3 mcg/kg/min infusion
Sufentanil	IV: 0.2-1 mcg/kg bolus or 0.1-1 mcg/kg/hr infusion
Ketamine	IV: 100 - 300 mcg/kg/hr infusion,
Tylenol	PO/PR: 12.5 mg/kg/dose q4 hrs (max 75 mg/kg/day) for 48 hrs
Gabapentin	PO: 2-5 mg/kg/dose (max 60 mg/kg/day or 3600 mg/day) up to 3 times daily

REVERSAL AGENTS

Neostigmine	IV: 25-80 mcg/kg + Glycopyrrolate 10 mcg/kg (or 200mcg for every 1mg of neostigmine)
Suggamadex	IV: 16mg/kg Immediate rescue reversal IV: 4mg/kg (1-2 post tetanic twitch) IV: 2mg/kg (1-2 twitch present on TOF)
Flumazenil	IV: 0.01 mg/kg (max = 0.2 mg); repeat up to total dose of 0.05 mg/kg (max total dose = 1 mg)
Naloxone	IV, IM, SC: 10 mcg/kg max (start with 2 mcg/kg q 2min, may repeat x 4 doses) for somnolence/resp depression

ANTI-EMETICS

Dexamethasone	IV, IM, PO: 0.3-0.6 mg/kg max 10mg (croup) IV: 0.15 mg/kg (nausea and vomiting)
Dimenhydrinate (Gravol)	IV, PO: 0.5-1 mg/kg (max = 50 mg)
Metoclopramide	IV: 0.15 mg/kg
Ondansetron	IV/PO: 0.1 mg/kg (max = 4 mg)

MUSCLE RELAXANTS

Cisatracurium	IV: 0.1 mg/kg, maintenance 0.03mg/kg PRN
Pancuronium	IV: 0.04-0.1 mg/kg, maintenance 0.01mg/kg PRN
Rocuronium	IV: 0.6-1 mg/kg, maintenance 0.1mg/kg PRN
Succinylcholine	IV: < 1yr 2-3 mg/kg (consider pretreatment with atropine IV 0.02 mg/kg); > 1 yr 1-2 mg/kg; IM: 2.5-4 mg/kg

ANTI-PRURITICS

Diphenhydramine (Benadryl)	IV, PO: 0.5-1 mg/kg (max = 50 mg)
Ondansetron	IV: 0.1 mg/kg/dose (max 4 mg)
Naloxone	IV: 0.25-2 mcg/kg/hr

ANTIBIOTICS- Surgical Prophylaxis (Intra-op Re-Dosing)

See Spectrum app for up to date dosing

Ampicillin	IV: 50 mg/kg, max 2gm (q6h)
Cefazolin	IV: 30 mg/kg, max 2gm (q4h)
Clindamycin	IV: 20 mg/kg, max 600mg (q6h)
Tobramycin	IV: 7.5 mg/kg, max 360mg (no intra-op re-dosing)
Metronidazole	IV: 10 mg/kg, max 500mg (q12h)
Vancomycin	IV: 15 mg/kg, max 1gm (q6h)

Endocarditis Prophylaxis

Indications:

1. Prosthetic heart valves
2. Previous infective endocarditis
3. Cardiac transplantation recipients with cardiac valvulopathy
4. Serious congenital heart conditions:
   - Unrepaired or incompletely repaired cyanotic CHD with/without palliative shunts and conduits
   - Completely repaired CHD with prosthetic material or device in first 6 months post procedure
   - Repaired CHD with residual defects at/near site of prosthetic patch

Prophylaxis (PO regimens): Single dose 60 min pre-procedure

Amoxicillin: 50 mg/kg PO (max = 2 g)

Allergy to Penicillin (PO regimes): *Single dose 60 min pre-procedure*

Clindamycin 20 mg/kg PO (max = 600 mg)

Azithromycin or Clarithromycin 15 mg/kg PO (max = 500 mg) *Clarithromycin only available in tabs*

Prophylaxis (IV/IM regimens): Single dose 30 min pre-procedure/pre-op

Ampicillin 50 mg/kg IV (max = 2 g)

Cefazolin or Ceftriaxone 50 mg/kg IV (max = 1 g)

Allergy to Penicillin (IV regimes):

Clindamycin 20 mg/kg IV (max = 600 mg)

KINGSTON GENERAL HOSPITAL

The Religious Hospitallers of Saint Joseph of the Hotel Dieu of Kingston

Kingston General Hospital & Hotel Dieu Hospital
Departments of Anesthesiology and Perioperative Medicine

PEDIATRIC DRUG DOSE CHART

For Anesthesiology + Perioperative Medicine

KGH Phone Numbers

To connect from HDH 83 -

Department of Anesthesiology	7827
Anesthesia Library	2435
OR Front Desk	7820
OR Manager (Anesthesiology)	7071
Anesthesia Resident Oncall	7080
Anesthesia Buddy Call Phone	7097
Recovery Room (PACU)	4395
OR Nurse Manager	7070
SDAC	3452
Obstetrics	2315
NICU	2320
Pediatrics	2352
ICU	7811
Emergency Department	2335
Pharmacy Night Pager	call
Anesthesia Assistants 7085, 7088, 7154, 7185	7079,
MRI	2796
CT Scan	2301
Pharmacy	6021
Core Lab	7806
Blood Bank	4188

KGH Operating Rooms

A: 3528	H: 3308
B: 3301	I: 3352
C: 3302 or 3312	J: 4214
D: 3303 or 3598	K: 3354
E: 3305 or 4618	L: 3353
F: 3306	ACT: 3912 or 4754
G: 3307	

HDH Phone Numbers

To connect from KGH 52 -

OR	2525
Day Surgery	2510
Recovery Room	2515
Pre-admission	2134
PAC Brock 1	2131
COPC	3152
EPACU	2422 / 2423
Emergency	2329
ICU	2458
OR Nurse Manager	2444
Phase 2	3206
Anesthesia Tech	2509

Anesthesia Assistant 613-328-7481

HDH Operating Rooms

1: 3901
2: 3902
4: 3904
5: 3905
6: 3906
8: 3908

The information on this card is for use in emergency situations and to guide in perioperative care for **Anesthesiology**. The user should check authoritative literature for current dosages and indications. Please make reference to CHEO outreach for further detailed drug information and drug calculators.

Adapted from the Kingston General Hospital & Hotel Dieu Hospital Departments of Anesthesiology & Pediatrics
Current Updates: Julie Zalan MD, FRCPC, & William Legere RPh
Kingston Authors: Ted Ashbury MD, FRCPC & Ellen Tsai MD FRCPC(Editions 1,2 &3)

Reference for all drugs: CHEO Pediatric Doses Booklet 2011, CHEO pediatric pain management dosing handbook 2011, CHEOnet parenteral manual, Lexicomp online

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