

We Have Authorization...

Now What??

Dan Lebovitz, MD
Pediatric Intensivist
Associate Medical Director, OurLegacy



Lori Markham, MSN, RN, CCRN-K, CPTC
Vice President & Chief Clinical Officer



Vital Signs for Infants and Children

| age | Weight kg | HR | RR | BP (sys) |
|---------|-----------|---------|-------|----------|
| newborn | 3 | 100-160 | 30-60 | 60-100 |
| 6 mo | 7 | 90-150 | 24-36 | 65-100 |
| 1 yo | 10 | 90-150 | 22-30 | 70-110 |
| 3 yo | 15 | 80-120 | 20-26 | 76-120 |
| 5 yo | 20 | 70-110 | 20-24 | 80-120 |
| 10 yo | 30 | 60-90 | 16-20 | 90-120 |
| 12 yo | 40 | 60-90 | 16-20 | 94-130 |
| 14 yo | 50 | 60-90 | 14-20 | 98-140 |

5% systolic BP for >1 yo = $70 + 2 \times (\text{age in years})$; 50% sys BP = $80 + 2 \times \text{age}(\text{yrs})$

Pediatric Guide

Estimated BSA:

$$4 \times \text{wt}(\text{kg}) + 7 / 90 + \text{wt}(\text{kg})$$

ETT size:

$$4 + \text{age in years} / 4 \quad (1-12\text{yo})$$

Estimated wt in kg:

$$2 \times \text{age in yrs} + 8$$

ETT depth:

$$\sim 3 \times \text{size of ETT} \quad (1-12 \text{ yo})$$

| Age | Est wt in kg | Laryng Blade | ETT size | ETT depth | Suction catheter | NG Tube | CV cath Size(Fr) |
|------|--------------|--------------|----------|-----------|------------------|---------|------------------|
| 1 mo | 4 | 0-1 | 3.5-4 | 9-10 | 8 | 8 | 3-4 |
| 3 mo | 6 | 1 | 3.5-4 | 9-10 | 8 | 8 | 3-4 |
| 6m | 8 | 1 | 3.5-4 | 10 | 8 | 8 | 4 |
| 1y | 10 | 1-2 | 4 | 11 | 8 | 10 | 4 |
| 2y | 12 | 2 | 4-4.5 | 12 | 8 | 10 | 4 |
| 3y | 14 | 2 | 5 | 13 | 8-10 | 10 | 4 |
| 4y | 16 | 2 | 5-5.5 | 14 | 10 | 12 | 4-5 |
| 5y | 18 | 2 | 5-5.5 | 14.5 | 10 | 12 | 4-5 |
| 6y | 20 | 2 | 5.5 | 15 | 10 | 12 | 5 |
| 7y | 22 | 2 | 6 | 15.5 | 10 | 14 | 5 |
| 8y | 25 | 2 | 6 | 16 | 10 | 14 | 5-7 |
| 9y | 28 | 2-3 | 6-6.5 | 16.5 | 12 | 14 | 5-7 |
| 10y | 34 | 3 | 6.5 | 17 | 12 | 16 | 5-7 |
| 12y | 40 | 3 | 7 | 18 | 12 | 16 | 5-7 |

Respiratory Medications

| Medication | Dose | Route | Issues |
|-------------------------|--|----------------------------------|---|
| Albuterol | 0.1-0.15 mg/kg/dose Max 20 mg/hr cont | Aerosolized | Tachycardia, low K, arrhythmias |
| Terbutaline | 0.01 mg/kg 0.2-3 mcg/kg titrate | IV bolus, SQ IV cont infusion | Tachycardia, low K, arrhythmias |
| Atrovent | 0.5-1 mg | Aerosolized q4 | Tachycardia, low bp High hr (rare) |
| Solumedrol | 15-20 mg/kg load, 15 mg/kg | IV Q6h | Hyperglycemia, low K, high bp |
| Magnesium sulfate | 50 - 75mg/kg (max 2g) | IV over 20 min | Hypotension, arrhythmias |
| Mucomyst (mucolytic) | 2-10cc of 10% soln | Aerosolized q6h | Tachycardia, hypotension, bronchospasm, use with bronchodilator |

Cardiac Antiarrhythmic Medications

| Medication | Dose | Route | Issues |
|-------------------|------------------------------------|---------------------------|--|
| Adenosine | 0.1-0.2 mg/kg/dose Max 12 mg | Rapid IV push | Heart block, arrhythmias, hypotension |
| Amiodarone | 5 mg/kg, repeat same dose | Rapid IV bolus | Arrhythmias, hypotension, high glucose |
| Atropine | 0.02 mg/kg (min 0.1mg/ max 1mg) | IV | Not in brain dead patients (use in DCD only) |
| Calcium chloride | 20 mg/kg | IV 30min – 1 hr | Follow ionized Ca levels Arrhythmias |
| Magnesium sulfate | 50 mg/kg (max 2g) | IV over 10 min | Hypotension, arrhythmias |
| Epinephrine | 0.01 mg/kg | Iv push | Arrhythmias, hypertension, tachycardia |
| Lidocaine | 1-2 mg/kg 10-50 mcg/kg/min | IV bolus Cont infusion | bradycardia, hypotension, heart block, arrhythmias |

Inotropic/ Pressor Medications

| Medication | Dose | Route | Issues |
|----------------|----------------------|------------------|---|
| Dopamine | 3-20 mcg/kg/min | IV cont infusion | Prefer <10 mcg/kg/min Inotrope, pressor dose dependent |
| Dobutamine | 5-20mcg/kg/min | IV cont infusion | Inotrope, vasodilator |
| Epinephrine | 0.1-2 mcg/kg/min | IV cont infusion | Inotrope, pressor |
| Norepinephrine | .05-1 mcg/kg/min | IV cont infusion | Inotrope, pressor |
| Milrinone | 0.25-0.75 mcg/kg/min | IV cont infusion | Inotrope, vasodilator |
| Phenylephrine | 0.1-0.5 mcg/kg/min | IV cont infusion | Pressor Can bolus 5-20 mcg/kg |
| Vasopressin | 0.3-2milliU/kg/min | IV cont infusion | Pressor |

Antihypertensive Medications

| Medication | Dose | Route | Issues |
|---------------|-------------------------------|------------------------------|---|
| Hydralazine | 0.1-0.2 mg/kg/dose | IV, may repeat q 20 min | Max 20 mg, hypotension |
| Diazoxide | 1-3 mg/kg | Slow IVP | Max 150 mg Hypotension, arrhythmias |
| Labetolol | 0.5-1 mg/kg 0.4-3 mg/kg/hr | IV bolus IV cont infusion | Hypotension |
| Nitroprusside | 0.5-10 mcg/kg/min | IV cont infusion | Mix 1:10 with thiosulfate – avoid cyanide toxicity, hypotension |
| Nicardipine | 1-3 mcg/kg/min | IV cont infusion | hypotension |
| Lasix | 1-2 mg/kg/dose | IVP | Loop diuretic |

Endocrine/ Hormonal Medications

| Medication | Dose | Route | Issues |
|-------------------------------|---------------------------------------|------------------------------|---|
| DDAVP | 0.5-1mcg/dose | IV boluses | titrate to u.o. effect desired (1-4 cc/kg/hr) |
| Vasopressin | begin 0.5 milliunit/kg/hr | IV cont infusion | titrate to u.o. effect desired, pressor effect |
| Levothyroxine (T4) | Bolus 1-5 mcg/kg 0.8-1.4 mcg/kg/hr | IV bolus IV cont infusion | Infants and children need higher doses |
| Triiodothyronine (T3) | 0.05-0.2 mcg/kg/hr | IV cont infusion | Very expensive, not widely available |
| Hydrocortisone/ Solumedrol | 1-2 mg/kg 15-20 mg/kg | IVP | Glucose intolerance, fluid retention |
| Insulin | 0.05-0.1 u/kg/hr | IV cont infusion | Hypoglycemia |

Blood products

| Product | Dose | Route | Issues |
|-----------|-----------------|--------------|---|
| PRBC | 10-15 cc/kg | IV | Raise Hct ~5%, hyperkalemia, hypocalcemia |
| Platelets | 0.1 u/kg | IV | Raise plat level by 25,000/ml |
| FFP | 10-15 cc/kg | IV over 1 hr | May cause hypotension, hypocalcemia |
| Cryoppt | 1 unit/ 5 kg | IV | Increase fibrinogen by 75mg/dl |
| Vitamin K | 0.5-20 mg/ dose | IV 15-30 min | Increase dose to higher range with increased size of patient. hypotension |

Antibiotic Medications/ Dosing

| Medication | Dose (mg/kg) | Frequency | Issues |
|-----------------------------|--------------|-----------|--|
| Ampicillin | 25-50 | Q 6h | <28 days – listeria |
| Piperacillin -Tazobactam | 100 (pip) | Q8 | ?nephrotoxic, ?hepatotoxic bumps BUN/creat esp with Vanc |
| Cefotaxime | 50 | Q6-q8 | |
| Ceftriaxone | 50 | Q12 | may cause gall bladder sludge, ↑ bili in neonates |
| Ceftazidime | 50 | Q8 | poor g+ coverage |
| Cefipime | 50 | Q8-12 | + pseudomonas |
| Cefazolin | 25 | Q8 | good g+, poor g- |
| Vancomycin | 15 | Q6 | ?nephrotoxic, q12 <7do |
| Gentamicin | 2.5 | Q8 | nephrotoxic, q12 <30d |