

LOSEY



# University of Colorado Pediatric Anesthesia Pocket Reference

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## Pediatric Normal Parameters and Equipment

AGE	Weight (kg)	ETT ID (mm)	ETT @ Lips	Laryngoscope Blade	LMA	RR	HR	MAP
neonate	<1*	2.5	7 cm*	Miller 0	1	<60	140's	30**
neonate	1-2*	3.0	8 cm*	Miller 0	1	<60	140's	30's**
neonate	2-3*	3.5	9 cm*	Mil 0/Ws 1.5	1	<60	130-140	30's**
neonate	>3	3.5-4.0	10 cm	Mil 0/Ws 1.5	1	<60	130-140	40's**
1-6 mo	4-6	3.5-4.0	12 cm	Mil 1/Ws 1.5	1-1.5	24-30	130's	50's
mo-1yr	8-10	4.0	13 cm	Mil 1/Ws 1.5	1.5	22-28	130's	60's
1-2 yr	10-12	4.5	14 cm	Mil 1-2	2	20-24	120's	60's
2-4 yr	12-16	5.0	15 cm	Mil 2/Mac 2	2	18-22	110's	60's
4-6 yr	16-20	5.5	16 cm	Mil 2/Mac2	2	16-20	90-110	70's
6-8 yr	20-30	6.0	17 cm	Mil 2/Mac2	2.5	16-20	90's	70's
9-12 yr	30-45	6.5-7.0	18 cm	Mil/Mac 2-3	3	12-18	80	70-80's
>14 yr	>50	7.0	20-22	Mil/Mac 2-3	4	10-18	75	70-80's

### Neonatal Rules to Remember:

- \* The Neonatal "1-2-3 / 7-8-9 Rule"
- \*\* For preterm and term newborns, the MAP is equal to the # of weeks PCA. By DOL 5, MAP = # of weeks PCA + 5. Make sure that various sized laryngoscope blades as well as larger and smaller diameter ET tubes are available at all times.

### In General:

- ETT Size = (Age/4) + 4 (or 5th finger size)
- ETT Depth: 3 x ETT Size (or Age + 11 cm at lip)

### Single-Lung ETT Selection

Age (yr)	Arndt (Fr)	Fogarty (Fr)	DLT
0.5-1	N/A		
1-2		5	N/A
2-4	5		
4-6	≥4.5 ETT		
6-8		6	26 F
8-10			26-28 F
10-12	7		32 F
12-14	≥6.5 ETT		
14-16	8		35 F
16-18	>7.5 ETT		35-37 F

### Central Line Size Guide

<10 kg	4F, 5 or 8 cm
10-30 kg	4-5F, 8 cm
30-50 kg	5F, 12-15 cm
> 50 kg	7F, 15 cm

### Right IJ and Rt. Subclavian Line Insertion Depth

Patient Height	Depth (cm at skin)
<100 cm	(height/10) - 1
>100 cm	(height/10) - 2

### Maintenance Fluid Requirements

The "4-2-1 Rule" 4 mL/kg/hr for to calculate + 2 mL/kg/hr for hourly fluid + 1 mL/kg/hr for maintenance. (Thus, a 22 kg

Replace the 1<sup>st</sup> 1/3 of the pre-op volume NPO + bowel prep loss, etc) over 1

Replace the 2<sup>nd</sup> 1/3 of the deficit over 1

Fluid Boluses are typically 10-15 mL/kg

Safety Tip: De-bubble your IV immediately do not fill the buretrol with ≥1-2 hr

### Glucose Requirements for

Consider intraop glucose administration under six months of age, especially

Intraop glucose infusion is recommended

1. < 45 wks PCA
2. Premature / IUGR
3. Already on TPN or Glucose / D<sub>10</sub>
4. Sep
5. Sur
6. No

The typical newborn basal glucose. If in doubt, start at 5 and adjust as needed prematurity and maternal gestations

Note: NPO inpatient neonates often. With glucose infusing at 5 mg/kg/min hourly fluid maint, leaving them slightly. Due to immature renal function, 1/2 N

### NPO Guidelines (hours)

Clears / Medicines	2
Breast Milk	4
Formula Milk, & Light Meals (Cereals)	6
Full Meals	8

### Estimated Blood Volume

Premature	90-100 mL/kg
Term Neonate	80 mL/kg
1 year old	75 mL/kg
Adult	70 mL/kg

### Neonatal / Infant Post

< 37 weeks PCA at birth & < 56 week ≥ 37 weeks PCA at birth & < 44 week = overnight admission or extended Local anesthesia or spinal anesthesia = post-op care at the discretion of

50 mcg/kg IV over 15 min  
nce: 0.25-1 mcg/kg/min IV

mg/kg IV/PO q 6<sup>o</sup> prn

a 0.05-0.1 mg/kg/dose IV/IM

sleepy: 0.5-1 mcg/kg IV prn

toxication: 10 mcg/kg IV/IM/ETT

g/kg IV. Max=5 mg Add atropine,

kg or glycopyrrolate 15 mcg/kg IV

ding dose: 5 mg IV over 5-10 min

2.5-15 mg/hr or 0.5-5 mcg/kg/min

5 min,  $\beta$ - $t_{1/2}$  = 45 min)

g/kg/min IV infusion

g/kg/min IV infusion

mcg/kg/min IV Max=2 mcg/kg/min

kg IV max 4mg for PONV

30 min prior to end of surgery

0.2 mg/kg q 3-6<sup>o</sup> prn

g IV for full paralysis in 3 min

min until reversible (80% Renal)

ilepticus: 15-20 mg/kg SLOW IV

5 mg/kg q 20' Max = 30 mg/kg IV

g/kg IV bolus prn hypotension

g/kg/min IV titrated infusion

g/kg IV max 1mEq/kg/hr (40mEq)

mg/kg PO/IM/PR/IV q 6-8<sup>o</sup>

: 10mg/dose

IV/IM: 0.25-0.5 mg/kg q 6-8<sup>o</sup> prn

25 mg/dose. (Not for kids < 2y/o)

: 2-3 mg/kg (higher in children)

50-250 mcg/kg/min

g/kg PO: 2mg/kg (30min pre-induction)

in: 0.05-0.5 mcg/kg/min IV

0.5-1 mcg/kg (3-5mcg/kg for RSI)

g/kg IV for paralysis in 1-2 min

min until reversible (80% Hepatic)

1<sup>st</sup> Dose = 0.5-1 mL/kg

dose: 2/3 of 1<sup>st</sup> dose q 90'-120'

g IV max 0.4 mg

g/kg or per ABG

g/kg for full paralysis in 30 sec

g/kg max 5ml at injection site

a: 0.5-2 mcg/kg IV

10-20 mcg/kg total dose

TERBUTALINE 5-10 mcg/kg IV q 15' (max 250 mcg)

VASOPRESSIN  
(Pitressin<sup>o</sup>) Adult V/F/TACH Arrest: 40 U IV x 1 dose  
Peds Infusion: 0.3-2 milliunits/kg/min IV  
Diabetes Insipidus: 0.5-10 milliunits/kg/hr

VECURONIUM  
(Norcuron<sup>o</sup>) 0.1 mg/kg IV for full paralysis in 2-3 min  
30-45 min until reversible (80% Hepatic)

## Parenteral Antibiotic Initial & 24hr Dosages

ANTIBIOTIC	INITIAL DOSE	24 <sup>o</sup> TOTAL DOSE	INTERVAL
Ampicillin	25-80 mg/kg	100-400 mg/kg max 12 gm	+Q4-6 <sup>o</sup>
Amp/Sulbactam	50 mg/kg	100-400 mg/kg max 8gm Amp	+Q4 <sup>o</sup>
Cefazolin	25-50 mg/kg	50-100 mg/kg max 12 gm	+Q4-6 <sup>o</sup>
Cefotetan	25 mg/kg	40-80 mg/kg max 6 gm	+Q12 <sup>o</sup>
Cefoxitin	30-40 mg/kg	80-160 mg/kg max 12 gm	+Q4-6 <sup>o</sup>
Cefuroxime	25-50 mg/kg	75-150 mg/kg max 6-9 gm	+Q8 <sup>o</sup>
Ciprofloxacin	10 mg/kg	20-30 mg/kg max 800 mg	+Q12 <sup>o</sup>
Clindamycin	10-15 mg/kg	25-40 mg/kg max 1800 mg	+Q6-8 <sup>o</sup>
Gentamicin	1.5-3 mg/kg	6-7.5 max mg/kg/day	+Q8-8 <sup>o</sup>
Metronidazole	15 mg/kg	30 mg/kg max 4 gm	+Q8 <sup>o</sup>
Oxacillin	25 mg/kg	100-200 mg/kg max 12 gm	+Q6 <sup>o</sup>
Vancomycin	10-15 mg/kg*	40 mg/kg max 2gm	+Q6-12 <sup>o</sup>
CNS infection:	15 mg/kg*	60 mg/kg *OVER 30 MIN*	

## Pre-Operative Sedatives

CHLORAL HYDRATE	PO: 50-75 mg/kg (not a preferred sedative)
DIAZEPAM (Valium <sup>o</sup> )	PO: 0.25-0.5 mg/kg Max = 20 mg IV: 0.1 mg/kg/dose IM: 3-5 mg/kg w/Atropine 20 mcg/kg and Midazolam 0.1-0.2 mg/kg to "stun" prior to IV Note: Use concentrated 5 mg/ml midazolam PO: 4-6 mg/kg with Midazolam syrup as below
KETAMINE (Ketalar <sup>o</sup> )	
LORAZEPAM (Ativan <sup>o</sup> )	IV/IM/PO: 0.05 mg/kg/dose
METHOHEXITAL	PR: 25-30 mg/kg max 600mg (for 20kg patient) Oral: 0.25-0.5 mg/kg Max=20mg $\pm$ 10-15 mg/kg acetaminophen syrup
MIDAZOLAM (Versed <sup>o</sup> )	Rectal: 0.5-1.0 mg/kg diluted to 3ml saline Intranasal: 0.2-0.3 mg/kg (use nasal atomizer) IM: 0.25 mg/kg (be wary of injection site pain) IV: 0.05-0.1 mg/kg/dose to max of 0.25 mg/kg
PENTOBARBITAL	IV: 1-5 mg/kg (varies upon procedure duration)

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