

GMVEMSC

2023

Pediatric Dose Chart

- This chart is based on the Pedi-Wheel and Broselow tape and their relationship with age, length, and weight. The color zones/ages estimate the 50th percentile for the zone, therefore this estimates the ideal body weight (**IBW**) for emergency dosing.
- If actual weight is available use the corresponding color zone for dosage calculations.
- If child appears to have a large body habitus, consider using a color/age zone higher for dosing. However, use the measured length color zone for equipment selection.
- All dosages are based on the concentrations listed, confirm prior to using the volumes listed.
- Unless otherwise specified, the maximum dose for pediatric medication administration is the adult dose
- Pediatric patients are 15 y/o or less

GREY

Newborn 2months 3months

3 kg **6.6 lbs**

4 kg **8.8 lbs**

5 kg **11 lbs**

Vitals:

Heart Rate:	100 – 205 bpm (Awake)
Resp Rate:	30 – 60 per min
Min. SBP:	0 – 1 month = > 60 1 – 3 months = > 70

Equipment:

ET Tube (mm)	2.5 – 3.5	ETT Depth (cm)	9 – 10.5
OPA (mm)	40 – 50	NPA	14
King Airway	0	L-Blade	0-1 straight
iGel	1.0	Suction Cath (FR)	6 - 8

Newborn Ventilation Rate: 40 – 60 bpm

Infants Ventilation Rate: 20 -30 bpm

		3 kg		4kg		5kg	
Defibrillation		6 – 12 - 18 – 24 - 30 J		8 - 16 – 24 - 32 - 40 J		10 - 20 – 30 - 40 - 50J	
Cardioversion		3 - 6 J		4 - 8 J		5 - 10 J	
Fluid Bolus (NS)		60 ml		80 ml		100 ml	
		Pink IO needle		Blue IO needle		Blue IO needle	
Concentration	Medication	Dose	Volume	Dose	Volume	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.03 mg	0.3 ml	0.04 mg	0.4 ml	0.05 mg	0.5ml
1 mg/ml (1ml)	Epinephrine IM	0.03 mg	0.03 ml	0.04 mg	0.04 ml	0.05 mg	0.05 ml
3 mg /ml	Adenosine IV / IO	0.3 mg	0.1 ml	0.4 mg	0.13 ml	0.5 mg	0.17 ml
2.5mg/3ml	Albuterol Neb	2.5mg	3 ml	2.5 mg	3 ml	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	15 mg	0.3 ml	20 mg	0.4 ml	25 mg	0.5 ml
0.1mg/ml	Atropine IV / IO	0.1 mg	1 ml	0.1 mg	1 ml	0.1 mg	1 ml
100mg/ml	Calcium Chloride 10% IV/IO	60 mg	0.6 ml	80 mg	0.8 ml	100 mg	1 ml
0.1g/ml	Dextrose 10 % IV / IO	0.6 mg	6 ml	2 g	20 ml	2.5 g	25 ml
50 mg/ml	Diphenhydramine IV / IM	3 mg	0.06 ml	4 mg	0.08 ml	5 mg	0.1 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	NA	NA	NA	NA	NA	NA
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5ml	0.5 mg	2.5 ml	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV	NA	NA	NA	NA	NA	NA
50 mg/ml	Ketamine IM	NA	NA	NA	NA	NA	NA
20 mg/ml	Lidocaine IV / IO	3 mg	0.15 ml	4 mg	0.2 ml	5 mg	0.25 ml
125 mg/2ml	Methylprednisolone IV	6 mg	0.1 ml *	8 mg	0.13 ml*	10 mg	0.16 ml
5 mg/ml	Midazolam IV / IO	0.3 mg	0.06 ml	0.4 mg	0.08 ml	0.5 mg	0.1 ml
5 mg/ml	Midazolam IN / IM	0.6mg	0.12 ml	0.8 mg	0.16 ml	1.0 mg	0.2 ml
1 mg/ml	Naloxone IV / IO/ IN	0.3 mg	0.3 ml	0.4 mg	0.4 ml	0.5 mg	0.5 ml
2 mg/ml	Ondansetron IV	NA	NA	NA	NA	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	3 mEq	3 ml	4 mEq	4 ml	5 mEq	5 ml

* Volume is Rounded

PINK**3 – 5 months**6 – 7 kg **13-15 lbs****RED****6 – 11 months**8 – 9 kg **17-20 lbs****Vitals:**

Heart Rate:	100 – 180 bpm (Awake)
Resp Rate:	30 – 60 breaths per min
Min. SBP:	3 – 11 months => 70

Equipment:

ET Tube (mm)	3.0 – 3.5	ETT Depth (cm)	10 – 11
OPA (mm)	40 – 50	NPA	14 F
King Airway	1	L-Blade	0-1 straight
iGel	1.5	Suction Cath (FR)	6 - 8

Ventilation Rate: 20 – 30 bpm

		3 - 5months (6-7kg)		6 - 11 months (8-9kgs)	
Defibrillation		13 - 26 - 39 - 52 - 60 J		17 - 33 - 51 - 68 - 80 J	
Cardioversion		7 - 14 J		8 - 16 J	
Fluid Bolus (NS)		130 ml		170 ml	
		Blue IO needle		Blue IO needle	
Concentration	Medication	Dose	Volume	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.065 mg	0.65 ml	0.085 mg	0.85ml
1 mg/ml (1ml)	Epinephrine IM	0.07 mg	0.07 ml*	0.09 mg	0.09 ml*
3 mg /ml	Adenosine IV / IO	0.65 mg	0.22 ml	0.85 mg	0.28 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	32 mg	0.65 ml	42 mg	0.85 ml
0.1mg/ml	Atropine IV / IO	0.13 mg	1.3 ml	0.17 mg	1.7 ml
100mg/ml	Calcium Chloride 10% IV/IO	130 mg	1.3 ml	170 mg	1.7 ml
0.1g/ml	Dextrose 10 % IV / IO	3.25 g	32.5 ml	4.25 g	42.5 ml
50 mg/ml	Diphenhydramine IV / IM	6.5 mg	0.13 ml	8.5 mg	0.17 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	NA	NA	NA	NA
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV	NA	NA	NA	NA
50 mg/ml	Ketamine IM	NA	NA	NA	NA
20 mg/ml	Lidocaine IV / IO	6.5 mg	0.32 ml	8.5 mg	0.43 ml*
125 mg/2ml	Methylprednisolone IV	13 mg	0.21 ml*	17 mg	0.27 ml
5 mg/ml	Midazolam IV / IO	0.65 mg	0.13 ml	0.85 mg	0.17 ml
5 mg/ml	Midazolam IN / IM	1.3 mg	0.26 ml	1.7 mg	0.34 ml
1 mg/ml	Naloxone IV / IO/ IN	0.7 mg	0.7 ml	0.9 mg	0.9 ml
2 mg/ml	Ondansetron IV	NA	NA	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	6.5 mEq	6.5 ml	8.5 mEq	8.5 ml

* Volume is Rounded

Purple

12 – 23 months

10 – 11 kg 22 – 24 lbs

Vitals:

Heart Rate:	98 – 140 bpm (Awake)
Resp Rate:	20 – 40 breaths per min
Min. SBP:	> 72

Equipment:

ET Tube (mm)	4.0	ETT Depth (cm)	11 - 12
OPA (mm)	60	NPA	18 F
King Airway	1	L-Blade	1-1.5 straight
iGel	1.5	Suction Cath (FR)	8

Ventilation Rate: 20 - 30 bpm

		12 - 23 months (10-11 kg)	
Defibrillation		20 – 40 – 60 – 80 – 100 J	
Cardioversion		10 - 20 J	
Fluid Bolus (NS)		200 ml	
Blue IO needle			
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.1 mg	1.0 ml
1 mg/ml (1ml)	Epinephrine IM	0.1 mg	0.1 ml
3 mg /ml	Adenosine IV / IO	1.0 mg	0.35 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	50 mg	1.0 ml
0.1mg/ml	Atropine IV / IO	0.21 mg	2.1 ml
100mg/ml	Calcium Chloride 10% IV/IO	210 mg	2.1 ml
0.1g/ml	Dextrose 10 % IV / IO	5.0 g	50 ml
50 mg/ml	Diphenhydramine IV / IM	10 mg	0.2 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	NA	NA
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV	NA	NA
50 mg/ml	Ketamine IM	NA	NA
20 mg/ml	Lidocaine IV / IO	10 mg	0.5 ml
125 mg/2ml	Methylprednisolone IV	20 mg	0.32 ml
5 mg/ml	Midazolam IV / IO	1.0 mg	0.2 ml
5 mg/ml	Midazolam IN / IM	2 mg	0.4 ml
1 mg/ml	Naloxone IV / IO/ IN	1.0 mg	1.0 ml
2 mg/ml	Ondansetron IV	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	10 mEq	10 ml

* Volume is Rounded

Yellow

2 y/o

26.5 – 31 lbs

12 – 14 kg

Vitals:

Heart Rate:	98 – 140 bpm (Awake)
Resp Rate:	20 – 40 breaths per min
Min. SBP:	> 74

Equipment:

ET Tube (mm)	4.5	ETT Depth (cm)	12.5 – 13.5
OPA (mm)	60	NPA	20 F
King Airway	2	L-Blade	2 straight/curved
iGel	2.0	Suction Cath (FR)	10

Ventilation Rate: 20 - 30 bpm

		2 y/o (12-14 kg)	
Defibrillation		26 – 52 – 78 – 104 – 130 J	
Cardioversion		13 - 26 J	
Fluid Bolus (NS)		260 ml	
Blue IO needle			
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.13 mg	1.3 ml
1 mg/ml (1ml)	Epinephrine IM	0.13 mg	0.13 ml
3 mg /ml	Adenosine IV / IO	1.3 mg	0.45 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	65 mg	1.3 ml
0.1mg/ml	Atropine IV / IO	0.26 mg	2.6 ml
100mg/ml	Calcium Chloride 10% IV/IO	260 mg	2.6 ml
0.1g/ml	Dextrose 10 % IV / IO	6.5 g	65 ml
50 mg/ml	Diphenhydramine IV / IM	13 mg	0.26 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	13 mcg	0.36 ml *
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV	NA	NA
50 mg/ml	Ketamine IM	NA	NA
20 mg/ml	Lidocaine IV / IO	13 mg	0.65 ml
125 mg/2ml	Methylprednisolone IV	26 mg	0.42 ml*
5 mg/ml	Midazolam IV / IO	1.3 mg	0.26 ml
5 mg/ml	Midazolam IN / IM	2.6 mg	0.52 ml
1 mg/ml	Naloxone IV / IO/ IN	1.3 mg	1.3 ml
2 mg/ml	Ondansetron IV	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	13 mEq	13 ml

* Volume is Rounded

White

3-4 y/o

33 – 40 lbs

15 – 18 kg

Vitals:

Heart Rate:	80 – 120 bpm (Awake)
Resp Rate:	20 – 30 breaths per min
Min. SBP:	> 78

Equipment:

ET Tube (mm)	5.0	ETT Depth (cm)	14 – 15
OPA (mm)	60	NPA	22 F
King Airway	2	L-Blade	2 straight/curved
iGel	2.0	Suction Cath (FR)	10

Ventilation Rate: 20 - 30 bpm

		3 - 4 y/o (15-18 kg)	
Defibrillation		33 – 66 – 102 – 136 – 160 J	
Cardioversion		17 - 34 J	
Fluid Bolus (NS)		340 ml	
Blue IO needle			
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.17 mg	1.7 ml
1 mg/ml (1ml)	Epinephrine IM	0.17 mg	0.17 ml
3 mg /ml	Adenosine IV / IO	1.7 mg	0.57 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	80mg	1.7 ml
0.1mg/ml	Atropine IV / IO	0.33 mg	3.3 ml
100mg/ml	Calcium Chloride 10% IV/IO	330 mg	3.3 ml
0.1g/ml	Dextrose 10 % IV / IO	8.5 g	85 ml
50 mg/ml	Diphenhydramine IV / IM	17 mg	0.34 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	17 mcg	0.44 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV	NA	NA
50 mg/ml	Ketamine IM	NA	NA
20 mg/ml	Lidocaine IV / IO	17 mg	0.85 ml
125 mg/2ml	Methylprednisolone IV	34 mg	0.54 ml*
5 mg/ml	Midazolam IV / IO	1.7 mg	0.34 ml
5 mg/ml	Midazolam IN / IM	3.4 mg	0.68 ml
1 mg/ml	Naloxone IV / IO/ IN	1.7 mg	1.7 ml
2 mg/ml	Ondansetron IV	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	17 mEq	17 ml

* Volume is Rounded

Blue

5-6 y/o

42 – 50 lbs

19 – 23 kg

Vitals:

Heart Rate:	75 – 118 bpm (Awake)
Resp Rate:	20 – 30 breaths per min
Min. SBP:	> 82

Equipment:

ET Tube (mm)	5.5	ETT Depth (cm)	15.5 – 16.5
OPA (mm)	70	NPA	24 F
King Airway	2	L-Blade	2 straight/curved
iGel	2.0	Suction Cath (FR)	10

Ventilation Rate: 20 - 30 bpm

		5 - 6 y/o (19-23 kg)	
Defibrillation		40 – 80 – 120 – 160 – 200 J	
Cardioversion		20 - 40 J	
Fluid Bolus (NS)		420 ml	
Blue IO needle			
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.21 mg	2.1 ml
1 mg/ml (1ml)	Epinephrine IM	0.21 mg	0.21 ml
3 mg /ml	Adenosine IV / IO	2.1 mg	0.7 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	105 mg	2.1 ml
0.1mg/ml	Atropine IV / IO	0.42 mg	4.2 ml
100mg/ml	Calcium Chloride 10% IV/IO	420 mg	4.2 ml
0.1g/ml	Dextrose 10 % IV / IO	10.5 g	105 ml
50 mg/ml	Diphenhydramine IV / IM	21 mg	0.42 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	21 mcg	0.52 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV	NA	NA
50 mg/ml	Ketamine IM	NA	NA
20 mg/ml	Lidocaine IV / IO	20 mg	1.0 ml
125 mg/2ml	Methylprednisolone IV	42 mg	0.67 ml*
5 mg/ml	Midazolam IV / IO	2.0 mg	0.4 ml
5 mg/ml	Midazolam IN / IM	4.0 mg	0.8 ml
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	21 mEq	21 ml

* Volume is Rounded

Orange

7-9 y/o

53 – 64 lbs

24 – 29 kg

Vitals:

Heart Rate:	75 – 118 bpm (Awake)
Resp Rate:	16 – 24 breaths per min
Min. SBP:	> 88

Equipment:

ET Tube (mm)	6.0	ETT Depth (cm)	17 – 18
OPA (mm)	80	NPA	26 F
King Airway	2.5	L-Blade	2 straight/curved
iGel	2.5	Suction Cath (FR)	10

Ventilation Rate: 20 - 30 bpm

		7 - 9 y/o (24 - 29 kg)	
Defibrillation		53 – 106 – 162 – 216 – 260 J	
Cardioversion		27 - 53 J	
Fluid Bolus (NS)		500 ml	
Blue IO needle			
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.27 mg	2.7 ml
1 mg/ml (1ml)	Epinephrine IM	0.27 mg	0.27 ml
3 mg /ml	Adenosine IV / IO	2.7 mg	0.9 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	130 mg	2.7 ml
0.1mg/ml	Atropine IV / IO	0.5 mg	5.0 ml
100mg/ml	Calcium Chloride 10% IV/IO	500 mg	5.0 ml
0.1g/ml	Dextrose 10 % IV / IO	13.5 g	135 ml
50 mg/ml	Diphenhydramine IV / IM	27 mg	0.54 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	27 mcg	0.64 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV **	27 mg	0.54 ml (IV)
50 mg/ml	Ketamine IM **	140 mg	2.8 ml (IM)
20 mg/ml	Lidocaine IV / IO	27 mg	1.3 ml
125 mg/2ml	Methylprednisolone IV	54 mg	0.86 ml*
5 mg/ml	Midazolam IV / IO	2.5 mg	0.5 ml
5 mg/ml	Midazolam IN	5.4 mg	1.1 ml (IN)*
5 mg/ml	Midazolam IM	5.0 mg	1.0 ml (IM)
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	27 mEq	27 ml

* Volume is Rounded

** See Clinical Pearls

Green 10-11 y/o

66 – 80 lbs

30 – 36 kg

Vitals:

Heart Rate:	60 – 100 bpm (Awake)
Resp Rate:	12 – 20 breaths per min
Min. SBP:	> 90

Equipment:

ET Tube (mm)	6.5	ETT Depth (cm)	18.5 – 19.5
OPA (mm)	80	NPA	26 F
King Airway	2.5	L-Blade	3 straight/curved
iGel	2.5	Suction Cath (FR)	10 – 12

Ventilation Rate: 20 - 30 bpm

		10 - 11 y/o (30 - 36 kg)	
Defibrillation		66 – 130 – 198 – 264 – 330 J	
Cardioversion		33- 66 J	
Fluid Bolus (NS)		500 ml	
Blue IO needle			
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.33 mg	3.3 ml
1 mg/ml (1ml)	Epinephrine IM	0.33 mg	0.33 ml
3 mg /ml	Adenosine IV / IO	3.3 mg	1.1 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	165 mg	3.3 ml
0.1mg/ml	Atropine IV / IO	0.5 mg	5.0 ml
100mg/ml	Calcium Chloride 10% IV/IO	500 mg	5.0 ml
0.1g/ml	Dextrose 10 % IV / IO	16.5 g	165 ml
50 mg/ml	Diphenhydramine IV / IM	33 mg	0.66 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	33 mcg	0.76 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV **	33 mg	0.66 ml (IV)
50 mg/ml	Ketamine IM **	165 mg	3.3 ml (IM)
20 mg/ml	Lidocaine IV / IO	33 mg	1.7 ml
125 mg/2ml	Methylprednisolone IV	66 mg	1.1 ml*
5 mg/ml	Midazolam IV / IO	2.5 mg	0.5 ml
5 mg/ml	Midazolam IN	6.6 mg	1.3 ml (IN)*
5 mg/ml	Midazolam IM	5.0 mg	1.0 ml (IM)
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV	NA	NA
1 mEq / ml	Sodium Bicarbonate IV / IO	33 mEq	33 ml

* Volume is Rounded

** See Clinical Pearls

12 y/o

84 - 93 lbs

38 - 42 kg

Vitals:

Heart Rate:	60 – 100 bpm
Resp Rate:	12 – 20 breaths per min
Min. SBP:	> 90

Equipment:

ET Tube (mm)	6.5 -7.0	ETT Depth (cm)	18.5 – 19.5
OPA (mm)	80	NPA	26 F
King Airway Pt Height	3/4	L-Blade	3 straight/curved
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

		12 y/o (38 - 42 kg)	
Defibrillation		80 – 160 – 240 – 320 – 360 J	
Cardioversion		40 - 80 J	
Fluid Bolus (NS)		500 ml	
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.4 mg	4.0 ml
1 mg/ml (1ml)	Epinephrine IM	0.4 mg	0.4 ml
3 mg /ml	Adenosine IV / IO	4.0 mg	1.3 ml*
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	200 mg	4.0 ml
0.1mg/ml	Atropine IV / IO	0.5 mg	5.0 ml
100mg/ml	Calcium Chloride 10% IV/IO	500 mg	5.0 ml
0.1g/ml	Dextrose 10 % IV / IO	20.0 g	200 ml
50 mg/ml	Diphenhydramine IV / IM	40 mg	0.8 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	40 mcg	0.9 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV **	40 mg	0.8 ml (IV)
50 mg/ml	Ketamine IM **	200 mg	4.0 ml (IM)
20 mg/ml	Lidocaine IV / IO	40 mg	2.0 ml
125 mg/2ml	Methylprednisolone IV	80 mg	1.3 ml*
5 mg/ml	Midazolam IV / IO	2.5 mg	0.5 ml
5 mg/ml	Midazolam IN	8.0 mg	1.6 ml (IN)*
5 mg/ml	Midazolam IM	5.0 mg	1.0 ml (IM)
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV / PO	4.0 mg	2.0 ml (or 1 tablet)
1 mEq / ml	Sodium Bicarbonate IV / IO	40 mEq	40 ml

* Volume is Rounded

** See Clinical Pearls

13 y/o

95 - 105 lbs

43 - 48 kg

Vitals:

Heart Rate:	60 – 100 bpm
Resp Rate:	12 – 20 breaths per min
Min. SBP:	> 90

Equipment:

ET Tube (mm)	6.5 -7.0	ETT Depth (cm)	18.5 – 19.5
OPA (mm)	80	NPA	26 F
King Airway Pt Height	3/4	L-Blade	3 straight/curved
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

		13 y/o (43 - 48 kg)	
Defibrillation		90 – 180 – 270 – 360 J	
Cardioversion		45 - 90 J	
Fluid Bolus (NS)		500 ml	
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.45 mg	4.5 ml
1 mg/ml (1ml)	Epinephrine IM	0.45 mg	0.45 ml
3 mg /ml	Adenosine IV / IO	4.5 mg	1.5 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	225 mg	4.5 ml
0.1mg/ml	Atropine IV / IO	0.5 mg	5.0 ml
100mg/ml	Calcium Chloride 10% IV/IO	500 mg	5.0 ml
0.1g/ml	Dextrose 10 % IV / IO	22.5 g	225 ml
50 mg/ml	Diphenhydramine IV / IM	45 mg	0.9 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	45 mcg	1.0 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV **	45 mg	0.9 ml (IV)
50 mg/ml	Ketamine IM **	225 mg	4.5 ml (IM)
20 mg/ml	Lidocaine IV / IO	45 mg	2.3 ml*
125 mg/2ml	Methylprednisolone IV	90 mg	1.5 ml*
5 mg/ml	Midazolam IV / IO	2.5 mg	0.5 ml
5 mg/ml	Midazolam IN	9.0 mg	1.8 ml (IN)
5 mg/ml	Midazolam IM	5.0 mg	1.0 ml (IM)
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV / PO	4.0 mg	2.0 ml (or 1 tablet)
1 mEq / ml	Sodium Bicarbonate IV / IO	45 mEq	45 ml

* Volume is Rounded

** See Clinical Pearls

14 y/o

106 - 115 lbs

49 - 52 kg

Vitals:

Heart Rate:	60 – 100 bpm
Resp Rate:	12 – 20 breaths per min
Min. SBP:	> 90

Equipment:

ET Tube (mm)	6.5 -7.0	ETT Depth (cm)	18.5 – 20
OPA (mm)	80	NPA	26 F
King Airway Pt Height	3/4	L-Blade	3 straight/curved
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

		14 y/o (49 - 52 kg)	
Defibrillation		100 – 200 – 300 – 360 J	
Cardioversion		50 - 100 J	
Fluid Bolus (NS)		500 ml	
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.5 mg	5.0 ml
1 mg/ml (1ml)	Epinephrine IM	0.5 mg	0.5 ml
3 mg /ml	Adenosine IV / IO	5.0 mg	1.7 ml*
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	250 mg	5.0 ml
0.1mg/ml	Atropine IV / IO	0.5 mg	5.0 ml
100mg/ml	Calcium Chloride 10% IV/IO	500 mg	5.0 ml
0.1g/ml	Dextrose 10 % IV / IO	25.0 g	250 ml
50 mg/ml	Diphenhydramine IV / IM	50 mg	1.0 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	50mcg	1.1 ml
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV **	50 mg	1.0 ml (IV)
50 mg/ml	Ketamine IM **	250 mg	5.0 ml (IM)
20 mg/ml	Lidocaine IV / IO	50 mg	2.5 ml
125 mg/2ml	Methylprednisolone IV	100 mg	1.6 ml
5 mg/ml	Midazolam IV / IO	2.5 mg	0.5 ml
5 mg/ml	Midazolam IN	10.0 mg	2.0 ml (IN)
5 mg/ml	Midazolam IM	5.0 mg	1.0 ml (IM)
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV / PO	4.0 mg	2.0 ml (or 1 tablet)
1 mEq / ml	Sodium Bicarbonate IV / IO	50 mEq	50 ml

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** See Clinical Pearls

15 y/o

116 - 125 lbs

53 - 57 kg

Vitals:

Heart Rate:	60 – 100 bpm
Resp Rate:	12 – 20 breaths per min
Min. SBP:	> 90

Equipment:

ET Tube (mm)	7.0 – 7.5	ETT Depth (cm)	19 – 21
OPA (mm)	80 / 90	NPA	26 F
King Airway Pt Height	3/4	L-Blade	3 straight/curved
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

		15 y/o (53 - 57 kg)	
Defibrillation		110 – 220 – 330 – 360 J	
Cardioversion		55 - 110 J	
Fluid Bolus (NS)		500 ml	
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.55 mg	5.5 ml
1 mg/ml (1ml)	Epinephrine IM	0.5 mg	0.5 ml
3 mg /ml	Adenosine IV / IO	5.5 mg	1.8 ml*
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	275 mg	5.5 ml
0.1mg/ml	Atropine IV / IO	0.5 mg	5.0 ml
100mg/ml	Calcium Chloride 10% IV/IO	500 mg	5.0 ml
0.1g/ml	Dextrose 10 % IV / IO	25.0 g	250 ml
50 mg/ml	Diphenhydramine IV / IM	50 mg	1.0 ml
50 mcg/ml	Fentanyl IV / IO / IN / IM	55 mcg	1.2 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV **	55 mg	1.1 ml (IV)
50 mg/ml	Ketamine IM **	250 mg	5 ml (IM)
20 mg/ml	Lidocaine IV / IO	55 mg	2.75 ml
125 mg/2ml	Methylprednisolone IV	110 mg	1.8 ml*
5 mg/ml	Midazolam IV / IO	2.5 mg	0.5 ml
5 mg/ml	Midazolam IN	10.0 mg	2.0 ml (IN)
5 mg/ml	Midazolam IM	5.0 mg	1.0 ml (IM)
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV / PO	4.0 mg	2.0 ml (or 1 tablet)
1 mEq / ml	Sodium Bicarbonate IV / IO	55 mEq	55 ml

* Volume is Rounded

** See Clinical Pearls

Pediatric Weights over 125 lbs		135 lbs (60kg)		145 lbs (65kg)		155 lbs (70kg)		165 lbs (75kg)		175 lbs (80kg)	
Defibrillation		120 - 240 - 360 J		130 - 260 - 360J		140 - 280 - 360 J		150 - 300 - 360 J		160 - 300 - 360 J	
Cardioversion		60 - 120 J		65 - 130 J		70 - 140 J		75 - 150 J		80 - 160 J	
Fluid Bolus (NS)		500 ml		500 ml		500 ml		500 ml		500 ml	
Concentration	Medication	Dose	Volume	Dose	Volume	Dose	Volume	Dose	Volume	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.6 mg	6.0 ml	0.65 mg	6.5 ml	0.7 mg	7.0 ml	0.75 mg	7.5 ml	0.8 mg	8.0 ml
1 mg/ml (1ml)	Epinephrine IM / SQ	0.5 mg	0.5 ml	0.5 mg	0.5 ml	0.5 mg	0.5 ml	0.5 mg	0.5 ml	0.5 mg	0.5 ml
3 mg /ml	Adenosine IV / IO	6.0 mg	2.0 ml	6.0 mg	2.0 ml	6.0 mg	2.0 ml	6.0 mg	2.0 ml	6.0 mg	2.0 ml
2.5mg/3ml	Albuterol Neb	2.5 mg	3 ml	2.5 mg	3 ml	2.5 mg	3 ml	2.5 mg	3 ml	2.5 mg	3 ml
50mg/ml	Amiodarone IV / IO	300 mg	6.0 ml	300 mg	6.0 ml	300 mg	6.0 ml	300 mg	6.0 ml	300 mg	6.0 ml
0.05mg/ml	Atropine IV / IO	0.5 mg	5.0 ml	0.5 mg	5.0 ml	0.5 mg	5.0 ml	0.5 mg	5.0 ml	0.5 mg	5.0 ml
100mg/ml	Calcium Chloride 10% IV/IO	500 mg	5.0 ml	500 mg	5.0 ml	500 mg	5.0 ml	500 mg	5.0 ml	500 mg	5.0 ml
0.1mg/ml	Dextrose 10 % IV / IO	25 mg	250 ml	25 mg	250 ml	25 mg	250 ml	25 mg	250 ml	50 mg	250 ml
50 mg/ml	Diphydramine IV / IM	50 mg	1.0 ml	50 mg	1.0 ml	50 mg	1.0 ml	50 mg	1.0 ml	50 mg	1.0 ml
50 mcg/ml	Fentanyl IV / IO / IN /IM	60 mcg	1.3 ml*	65 mcg	1.4 ml*	70 mcg	1.5 ml*	75 mcg	1.6 ml*	80 mcg	1.7 ml*
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	2.5 ml	0.5 mg	2.5 ml	0.5 mg	2.5 ml	0.5 mg	2.5 ml	0.5 mg	2.5 ml
50 mg/ml	Ketamine IV **	60 mg	1.2 ml	65 mg	1.3 ml	70 mg	1.4 ml	75 mg	1.5 ml	80 mg	1.6 ml
50 mg/ml	Ketamine IM **	250 mg	5.0 ml	250 mg	5.0 ml	250 mg	5.0 ml	250 mg	5.0 ml	250 mg	5.0 ml
20 mg/ml	Lidocaine IV / IO	60 mg	3.0 ml	65 mg	3.3 ml *	70 mg	3.5 ml	75 mg	3.8 ml*	80 mg	4.0 ml
125 mg/2ml	Methylprednisolone IV	120 mg	1.9 ml	125 mg	2.0 ml	125 mg	2.0 ml	125 mg	2.0 ml	125 mg	2.0 ml
5 mg/ml	Midazolam IV/IO	2.5 mg	0.5 ml	2.5 mg	0.5 ml	2.5 mg	0.5 ml	2.5 mg	0.5 ml	2.5 mg	0.5 ml
5 mg/ml	Midazolam IN	10.0 mg	2.0 ml	10.0 mg	2.0 ml	10.0 mg	2.0 ml	10.0 mg	2.0 ml	10.0 mg	2.0 ml
5 mg/ml	Midazolam IM	5.0 mg	1.0 ml	5.0 mg	1.0 ml	5.0 mg	1.0 ml	5.0 mg	1.0 ml	5.0 mg	1.0 ml
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	2.0 ml	2.0 mg	2.0 ml	2.0 mg	2.0 ml	2.0 mg	2.0 ml	2.0 mg	2.0 ml
2 mg/ml	Ondansetron IV (or 1 tablet PO)	4.0 mg	2.0 ml	4.0 mg	2.0 ml	4.0 mg	2.0 ml	4.0 mg	2.0 ml	4.0 mg	2.0 ml
1 mEq / ml	Sodium Bicarbonate IV / IO	60 mEq	60 ml	65 mEq	65 ml	70 mEq	70 ml	75 mEq	75 ml	80 mEq	85 ml

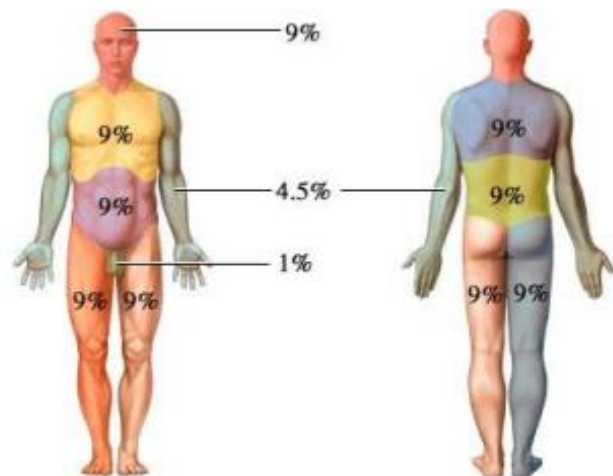
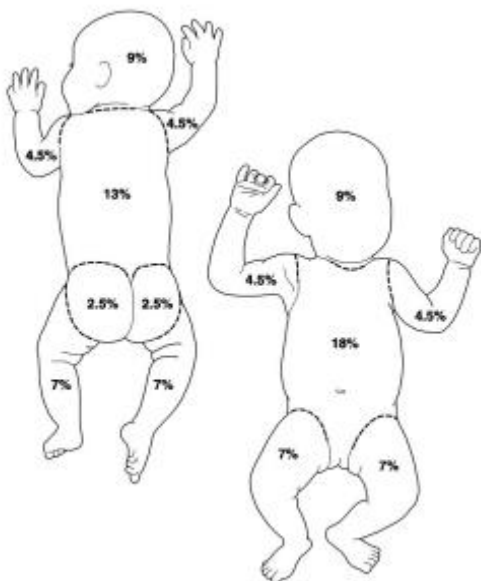
Other Medications

			Epi Pen Jr	Epi Pen Adult	Epi Pen Adult + JR	Atropine IV / IO Organophosphate/ Nerve Gas	Hydroxocobalamin (Cynokit) 25 mg/ml (over 15mins)	Lidocaine Neb Conscious Sedation		Ketamine IM ** Not for Pain, Combative only		
Age	lbs.	kg	Dose mg	Dose mg	Dose mg	Dose mg	Dose mg	Vol. mls	Dose mg	Vol. mls	Dose mg	Vol. mls
Newborn	6.6 lbs	3 kg	0.15 mg			0.5mg	210 mg	8.4 ml	4.5 mg	0.23 ml*	NA	
2 months	8.8 lbs	4 kg	0.15 mg			0.5mg	280 mg	11.2 ml	6.0 mg	0.3 ml	NA	
3 months	11 lbs	5 kg	0.15 mg			0.5mg	350 mg	14 ml	7.5 mg	0.38 ml*	NA	
3-5 months	13 - 15 lbs	6 - 7 kg	0.15 mg			0.5mg	455 mg	18.2 ml	10.5 ml	0.53 ml	NA	
6-11 months	17 - 20 lbs	8 - 9 kg	0.15 mg			0.5mg	595 mg	23.8 ml	13.5 mg	0.68 ml*	NA	
12-23 months	22 - 24 lbs	10 - 11 kg	0.15 mg			0.5mg	700 mg	28 ml	15 mg	0.75 ml	NA	
2 y/o	25 - 31 lbs	12 - 14 kg	0.15 mg			0.5mg	910 mg	36.4 ml	20 mg	1.0 ml*	NA	
3 - 4 y/o	33 - 40 lbs	15 - 18 kg		0.3 mg		0.5mg	1.2 g	48 ml	25.5 mg	1.3 ml*	NA	
5 - 6y/o	42 - 50 lbs	19 - 23 kg		0.3 mg		1.0mg	1.5 g	60 ml	31.5 mg	1.6 ml *	NA	
7 - 9 y/o	53 - 64 lbs	24 - 29 kg		0.3 mg		1.0mg	1.9 g	76 ml	40.5 mg	2.0 ml*	135 mg	2.7 ml
10 - 11y/o	66 - 80 lbs	30 - 36 kg			0.45 mg	1.0mg	2.3 g	92 ml	50 mg	2.5 ml	165 mg	3.3 ml
12 y/o	84 - 93 lbs	38 - 42 kg			0.45 mg	2.0mg	2.8 g	112 ml	60 mg	3.0 ml	200 mg	4.0 ml
13 y/o	95 - 105 lbs	43 - 48 kg			0.45 mg	2.0mg	3.2 g	128 ml	68 mg	3.4 ml	225 mg	4.5 ml
14 y/o	106 - 115 lbs	49 - 52 kg			0.45 mg	2.0mg	3.5 g	140 ml	75 mg	3.75 ml	250 mg	5.0 ml
15 y/o	116 - 125 lbs	53 - 57 kg			0.45 mg	2.0mg	3.9 g	156 ml	82 mg	4.1 ml	250 mg	5.0 ml

Clinical Pearls

- Defibrillation and cardioversion Joules should be rounded up to the available setting.
- Chest Decompression less than 8 y/o, the site of choice is limited to the 2nd and 3rd intercostal space at the mid-clavicular line
- Patient must be 8 y/o or greater for a surgical airway.
- Field termination does not apply to pediatric patients.
- For tracheostomy tube suctioning, use the patient's pinky finger as an approximate length to insert the suction tubing.
- For pain associated with IO infusion administer **Lidocaine 2%** 0.5mg/kg via IO (max 100mg) (half the dose listed in the pediatric chart)
- **Fentanyl** IN is the first choice for pediatrics. To account for medication remaining in the needle and syringe, an additional 0.1ml is already added to the Fentanyl volumes.
- **Ketamine** is not to be administered for pain.
- **Ketamine** should only be administered for emergency sedation for the combative patient, including excited delirium and for sedation in Crush Syndrome. Limited use in patients age 8 or greater. (8021)
 - **5mg/kg IM max dose 250mg**
- If a conscious patient requires intubation:
 - **Lidocaine 1.5mg/kg nebulized or IN** (Maximum dose is 100 mg) (Dose listed in the chart is calculated at 1.0mg/kg)
- If cerebral herniation is present, Ventilate at a rate of 10 faster than the normal respiratory rate.
- Transport all infants less than 2 months of age with a history or reported temperature greater than 38.0 C (100.4 F) or less than 35.6 C (96.0)
- **Albuterol** 10mg Nebulized- In Crush Syndrome administer

Rule of Nines



Dose Calculations:

Defibrillation		2 - 4 - 6- 8 -10 J/kg	
Cardioversion		1 J/kg, 2 J/kg	
Fluid Bolus (NS)		20 ml/kg (max 500ml)	
Concentration	Medication	Dose	Max Dose
0.1mg/ml (10ml)	Epinephrine IV / IO	0.01 mg/kg	1.0 mg
1 mg/ml (1ml)	Epinephrine IM	0.01 mg/kg	0.5 mg
3 mg /ml	Adenosine IV / IO (1st Dose)	0.1 mg/kg	6 mg
3 mg /ml	Adenosine IV / IO (2nd Dose)	0.2 mg/kg	12 mg
2.5mg/3ml	Albuterol Neb	2.5 mg	3 doses
50mg/ml	Amiodarone IV / IO	5.0 mg/kg	300 mg
0.1mg/ml	Atropine IV / IO	0.02 mg/kg	0.5 mg
100mg/ml	Calcium Chloride 10% IV/IO	20 mg/kg	500 mg
0.1g/ml	Dextrose 10 % IV / IO	5.0 ml/kg	250 ml
0.1g/ml	Dextrose 10 % IV / IO (newborn)	2.0 ml/kg	
50 mg/ml	Diphenhydramine IV / IM	1.0 mg/kg	50 mg
50 mcg/ml	Fentanyl IV / IO / IN / IM (0.1ml added to vol.)	1.0 mcg/kg	100 mcg
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	0.5 mg
50 mg/ml	Ketamine IV **	1 mg/kg	100 mg
50 mg/ml	Ketamine IM **	5mg/kg	250 mg
20 mg/ml	Lidocaine (Pain for IO)	0.5mg/kg	100 mg
20 mg/ml	Lidocaine IV / IO	1.0 mg/kg	100 mg
20 mg/ml	Lidocaine IN	100 mg	100mg
20 mg/ml	Lidocaine Neb	1.5mg/kg	100mg
125 mg/2ml	Methylprednisolone IV	2.0 mg/kg	125 mg
5 mg/ml	Midazolam IV / IO	0.1 mg /kg	2.5 mg
5 mg/ml	Midazolam IN / IM	0.2 mg/kg	10mg IN, 5mg IM
1 mg/ml	Naloxone IV / IO/ IN (20 kg or less)	0.1 mg/kg	2mg
1 mg/ml	Naloxone IV / IO/ IN (Greater than 20 kg)	2mg	2mg
2 mg/ml	Ondansetron IV / PO **	0.1 mg /kg	4mg
1 mEq / ml	Sodium Bicarbonate IV / IO	1 mEq/kg	100 mEq

** See Clinical Pearls