

GMVEMSC

2025

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 the 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 defined as less than 16 y/o.

This Page Intentionally Left Blank

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) L-Blade	2.5 – 3.5 0-1 straight	ETT Depth (cm)	9 – 10.5
OPA (mm)	40 – 50	NPA	14
LMA	1.0	Air Q	0.5 - 1
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	
		15mm / Pink IO		25mm / Blue IO		25mm / Blue IO	
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	0.15 mg	0.15 ml	0.15 mg	0.15 ml	0.15 mg	0.15 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	NA	NA	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
100 mg/ml	Tranexamic Acid (TXA) Neb	NA	NA	NA	NA	NA	NA

* 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) L-Blade	3.0 – 3.5 0-1 straight	ETT Depth (cm)	10 – 11
OPA (mm)	40 – 50	NPA	14 F
LMA	1.5	Air Q	1 – 1.5
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	
		25mm / Blue IO needle		25mm / 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	0.15 mg	0.15 ml	0.15 mg	0.15 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
100 mg / ml	Tranexamic Acid (TXA) Neb	250 mg	2.5 ml	250 mg	2.5 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) L-Blade	4.0 1-1.5 straight	ETT Depth (cm)	11 - 12
OPA (mm)	60	NPA	18 F
LMA	2.0	Air Q	1.5
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	
		25mm / 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	0.15 mg	0.15 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
100 mg / ml	Tranexamic Acid (TXA) Neb	250 mg	2.5 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) L-Blade	4.5 2 str/curved	ETT Depth (cm)	12.5 – 13.5
OPA (mm)	60	NPA	20 F
LMA	2.0	Air Q	1.5
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	
		25mm/ 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	0.15 mg	0.15 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
100 mg /ml	Tranexamic Acid (TXA) Neb	250 mg	2.5 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) L-Blade	5.0 2 str/curved	ETT Depth (cm)	14 – 15
OPA (mm)	60	NPA	22 F
LMA	2.0	Air Q	2.0
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	
		25 mm/ 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	0.3 mg	0.3 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
100 mg /ml	Tranexamic Acid (TXA) Neb	250 mg	2.5 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) L-Blade	5.5 2 str/curved	ETT Depth (cm)	15.5 – 16.5
OPA (mm)	70	NPA	24 F
LMA	2.5	Air Q	2.0
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	
		25mm / 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	0.3 mg	0.3 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
100 mg / ml	Tranexamic Acid (TXA) Neb	250 mg	2.5 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) L-Blade	6.0 2 str/curved	ETT Depth (cm)	17 – 18
OPA (mm)	80	NPA	26 F
LMA	2.5	Air Q	2.0
iGel	2.5	Suction Cath (FR)	10

Ventilation Rate: 20 - 30 bpm

Defibrillation		53 – 106 – 162 – 216 – 260 J	
Cardioversion		27 - 53 J	
Fluid Bolus (NS)		500 ml	
		25mm / 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	0.3 mg	0.3 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
100 mg / ml	Tranexamic Acid (TXA) Neb	500 mg	5.0 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) L-Blade	6.5 3 str/curved	ETT Depth (cm)	18.5 – 19.5
OPA (mm)	80	NPA	26 F
LMA	3.0	Air Q	3.0
iGel	2.5	Suction Cath (FR)	10 – 12

Ventilation Rate: 20 - 30 bpm

Defibrillation		66 – 130 – 198 – 264 – 330 J	
Cardioversion		33- 66 J	
Fluid Bolus (NS)		500 ml	
		25mm / 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	0.5 mg	0.5 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
100 mg / ml	Tranexamic Acid (TXA) Neb	500 mg	5.0 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) L-Blade	6.5 -7.0 3 str/curved	ETT Depth (cm)	18.5 – 19.5
OPA (mm)	80	NPA	26 F
LMA	3.0	Air Q	3.0
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

Defibrillation		12 y/o (38 - 42 kg)	
Cardioversion		40 – 80 J	
Fluid Bolus (NS)		500 ml	
25mm / Blue IO needle		(45 or 55mm) / Yellow IO needle Humeral **	
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.4 mg	4.0 ml
1 mg/ml (1ml)	Epinephrine IM	0.5 mg	0.5 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
100 mg / ml	Tranexamic Acid (TXA) Neb	500 mg	5.0 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) L-Blade	6.5 -7.0 3 str/curved	ETT Depth (cm)	18.5 – 19.5
OPA (mm)	80	NPA	26 F
LMA	3.0	Air Q	3.0
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

Defibrillation		90 – 180 – 270 – 360 J	
Cardioversion		45 – 90 J	
Fluid Bolus (NS)		500ml	
25mm / Blue IO needle		(45 or 55mm) / Yellow IO needle Humeral **	
Concentration	Medication	Dose	Volume
0.1mg/ml (10ml)	Epinephrine IV / IO	0.45 mg	4.5 ml
1 mg/ml (1ml)	Epinephrine IM	0.5 mg	0.5 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
100 mg /ml	Tranexamic Acid (TXA) Neb	500 mg	5.0 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) L-Blade	6.5 -7.0 3 str/curved	ETT Depth (cm)	18.5 – 20
OPA (mm)	80	NPA	26 F
LMA	4.0	Air Q	3.0
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

Defibrillation		100 – 200 – 300 – 360 J	
Cardioversion		50 – 100 J	
Fluid Bolus (NS)		500 ml	
25mm / Blue IO needle		(45 or 55mm) / Yellow IO needle Humeral **	
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
100 mg/ ml	Tranexamic Acid (TXA) Neb	500 mg	5.0 ml

*** Volume is Rounded****** 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) L-Blade	7.0 – 7.5 3 str/curved	ETT Depth (cm)	19 – 21
OPA (mm)	80 / 90	NPA	26 F
LMA	4.0	Air Q	3.0
iGel	3.0	Suction Cath (FR)	12 - 14

Ventilation Rate: 20 bpm

Defibrillation		110 – 220 – 330 – 360 J	
Cardioversion		55 - 110 J	
Fluid Bolus (NS)		500 ml	
25mm / Blue IO needle		(45 or 55mm) / Yellow IO needle Humeral **	
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
100 mg / ml	Tranexamic Acid (TXA) Neb	500 ml	5.0 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
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	80 ml
100 mg /ml	Tranexamic Acid (TXA) Neb	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

Other Medications

			Epi 1:1,000 IM Dose or use Epi Pen Jr	Epi 1:1,000 IM Dose or use Epi Pen Adult	Epi 1:1,000 IM Dose or use Epi Pen Adult + JR	Atropine IV / IO Organophosphate/ Nerve Gas	Hydroxocobalamin (Cyanokit) 25 mg/ml (over 15mins)		Lidocaine Neb Conscious Sedation		Sodium Thiosulfate 250mg/ml (Slow IV)	
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	350 mg	14 ml	4.5 mg	0.23 ml*	2.06 gm	8.25 ml
2 months	8.8 lbs	4 kg	0.15 mg			0.5mg	350mg	14 ml	6.0 mg	0.3 ml	2.06 gm	8.25 ml
3 months	11 lbs	5 kg	0.15 mg			0.5mg	350 mg	14 ml	7.5 mg	0.38 ml*	2.06 gm	8.25 ml
3-5 months	13 - 15 lbs	6 - 7 kg	0.15 mg			0.5mg	700 mg	28 ml	10.5 ml	0.53 ml	4.125 gm	16.5 ml
6-11 months	17 - 20 lbs	8 - 9 kg	0.15 mg			0.5mg	700 mg	28 ml	13.5 mg	0.68 ml*	4.125 gm	16.5 ml
12-23 months	22 - 24 lbs	10 - 11 kg	0.15 mg			0.5mg	700 mg	28 ml	15 mg	0.75 ml	4.125 gm	16.5 ml
2 y/o	25 - 31 lbs	12 - 14 kg	0.15 mg			0.5mg	1050 mg	42ml	20 mg	1.0 ml*	6.18 gm	24.75 ml
3 - 4 y/o	33 - 40 lbs	15 - 18 kg		0.3 mg		0.5mg	1050 mg	42 ml	25.5 mg	1.3 ml*	6.18 gm	24.75 ml
5 - 6y/o	42 - 50 lbs	19 - 23 kg		0.3 mg		1.0mg	1.4 g	56 ml	31.5 mg	1.6 ml *	8.25 gm	33 ml
7 - 9 y/o	53 - 64 lbs	24 - 29 kg		0.3 mg		1.0mg	1.75 g	70 ml	40.5 mg	2.0 ml*	10.3 gm	41.25 ml
10 - 11y/o	66 - 80 lbs	30 - 36 kg			0.5 mg	1.0mg	2.45 g	98 ml	50 mg	2.5 ml	12.5 gm	50 ml
12 y/o	84 - 93 lbs	38 - 42 kg			0.5 mg	2.0mg	2.8 g	112 ml	60 mg	3.0 ml	12.5 gm	50 ml
13 y/o	95 - 105 lbs	43 - 48 kg			0.5 mg	2.0mg	2.8 g	112 ml	68 mg	3.4 ml	12.5 gm	50 ml
14 y/o	106 - 115 lbs	49 - 52 kg			0.5 mg	2.0mg	3.5 g	140 ml	75 mg	3.75 ml	12.5 gm	50 ml
15 y/o	116 - 125 lbs	53 - 57 kg			0.5 mg	2.0mg	4.2 g	168 ml	82 mg	4.1 ml	12.5 gm	50 ml

Clinical Pearls

- Defibrillation and cardioversion Joules should be rounded up to the available setting.
- Chest Decompression < 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).
- **IO:** Humeral IO must be > 12 y/o. The Distal Femur location was added as an access site; however, this should be approved by your medical director and added to your skills checkoff.
- **Fentanyl** IN is the first choice for pain in 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 aged 8 or greater.
 - **5mg/kg IM (max dose 250mg) or 1mg/kg slow IV (max dose 100mg)**
- 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- for unstable Crush Syndrome.
- **TXA nebulized**— only used in pediatric patients with uncontrolled bleeding from a recent tonsillectomy.
- Pregnant Pediatric Patients:
 - Transport to a hospital with OB capabilities (Do not transport to Children's Hospitals).
 - Pregnant patients < 16 and actively seizing:
 - **Magnesium Sulfate** 4 grams – infused with a macro-drip tubing over 20min (1gts/sec)
 -
- Lithium Button battery Ingestion: administered by patient or caregiver
 - > 12 months old **Honey** – 10ml every 10 minutes

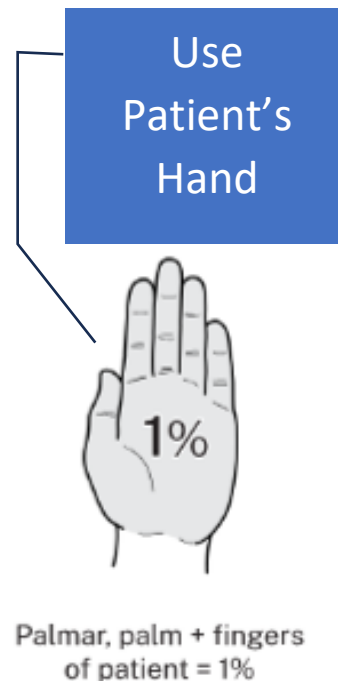
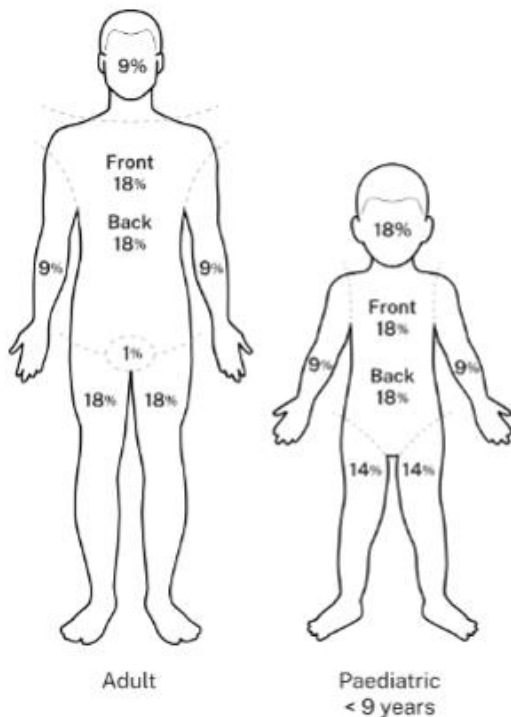
glasgow coma score (verbal)	modified glasgow coma score (pre-verbal child or infant)
eye opening Spontaneous — 4 To speech — 3 To pain — 2 None — 1	eye opening Spontaneous — 4 To speech — 3 To pain — 2 None — 1
best verbal response Oriented — 5 Confused — 4 Inappropriate words — 3 Incomprehensible sounds — 2 None — 1	best verbal response Coos, babbles — 5 Irritable, cries — 4 Cries to pain — 3 Moans to pain — 2 None — 1
best motor response Obeys commands — 6 Localizes pain — 5 Withdraws — 4 Flexion posturing — 3 Extensor posturing — 2 None — 1	best motor response Normal spontaneous movement — 6 Withdraws to touch — 5 Withdraws to pain — 4 Abnormal flexion — 3 Abnormal extension — 2 None — 1

Estimate Burn Size

Rule of Nines

or

Palmar Method



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 – (< 15kg)	0.15 mg	0.15 mg
1 mg/ml (1ml)	Epinephrine IM – (>15kg & <30kg)	0.3 mg	0.3mg
1 mg/ml (1ml)	Epinephrine IM – (> 30kg)	0.5mg	0.5mg
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
100 mg /ml	Tranexamic Acid (TXA) Neb (< 25kg)	250 ml	250 ml
100 mg / ml	Tranexamic Acid (TXA) Neb (>25kg)	500 ml	5.0 ml

**** See Clinical Pearls**