

# GMVEMSC

2024

## 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 50<sup>th</sup> 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.

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# Pediatric Dose Chart Notes Page

# 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)	<b>Epinephrine IV / IO</b>	0.03 mg	0.3 ml	0.04 mg	0.4 ml	0.05 mg	0.5ml
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.15 mg	0.15 ml	0.15 mg	0.15 ml	0.15 mg	0.15 ml
3 mg /ml	<b>Adenosine IV / IO</b>	0.3 mg	0.1 ml	0.4 mg	0.13 ml	0.5 mg	0.17 ml
2.5mg/3ml	<b>Albuterol Neb</b>	2.5mg	3 ml	2.5 mg	3 ml	2.5 mg	3 ml
50mg/ml	<b>Amiodarone IV / IO</b>	15 mg	0.3 ml	20 mg	0.4 ml	25 mg	0.5 ml
0.1mg/ml	<b>Atropine IV / IO</b>	0.1 mg	1 ml	0.1 mg	1 ml	0.1 mg	1 ml
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	60 mg	0.6 ml	80 mg	0.8 ml	100 mg	1 ml
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	0.6 mg	6 ml	2 g	20 ml	2.5 g	25 ml
50 mg/ml	<b>Diphenhydramine IV / IM</b>	3 mg	0.06 ml	4 mg	0.08 ml	5 mg	0.1 ml
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	NA	NA	NA	NA	NA	NA
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	2.5ml	0.5 mg	2.5 ml	0.5 mg	2.5 ml
50 mg/ml	<b>Ketamine IV</b>	NA	NA	NA	NA	NA	NA
50 mg/ml	<b>Ketamine IM</b>	NA	NA	NA	NA	NA	NA
20 mg/ml	<b>Lidocaine IV / IO</b>	3 mg	0.15 ml	4 mg	0.2 ml	5 mg	0.25 ml
125 mg/2ml	<b>Methylprednisolone IV</b>	6 mg	0.1 ml *	8 mg	0.13 ml*	10 mg	0.16 ml
5 mg/ml	<b>Midazolam IV / IO</b>	0.3 mg	0.06 ml	0.4 mg	0.08 ml	0.5 mg	0.1 ml
5 mg/ml	<b>Midazolam IN / IM</b>	0.6mg	0.12 ml	0.8 mg	0.16 ml	1.0 mg	0.2 ml
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	0.3 mg	0.3 ml	0.4 mg	0.4 ml	0.5 mg	0.5 ml
2 mg/ml	<b>Ondansetron IV</b>	NA	NA	NA	NA	NA	NA
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	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)	<b>Epinephrine IV / IO</b>	0.065 mg	<b>0.65 ml</b>	0.085 mg	<b>0.85ml</b>
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.15 mg	<b>0.15 ml</b>	0.15 mg	<b>0.15 ml</b>
3 mg /ml	<b>Adenosine IV / IO</b>	0.65 mg	<b>0.22 ml</b>	0.85 mg	<b>0.28 ml</b>
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	<b>3 ml</b>	2.5 mg	<b>3 ml</b>
50mg/ml	<b>Amiodarone IV / IO</b>	32 mg	<b>0.65 ml</b>	42 mg	<b>0.85 ml</b>
0.1mg/ml	<b>Atropine IV / IO</b>	0.13 mg	<b>1.3 ml</b>	0.17 mg	<b>1.7 ml</b>
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	130 mg	<b>1.3 ml</b>	170 mg	<b>1.7 ml</b>
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	3.25 g	<b>32.5 ml</b>	4.25 g	<b>42.5 ml</b>
50 mg/ml	<b>Diphenhydramine IV / IM</b>	6.5 mg	<b>0.13 ml</b>	8.5 mg	<b>0.17 ml</b>
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	NA	<b>NA</b>	NA	<b>NA</b>
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	<b>2.5 ml</b>	0.5 mg	<b>2.5 ml</b>
50 mg/ml	<b>Ketamine IV</b>	NA	<b>NA</b>	NA	<b>NA</b>
50 mg/ml	<b>Ketamine IM</b>	NA	<b>NA</b>	NA	<b>NA</b>
20 mg/ml	<b>Lidocaine IV / IO</b>	6.5 mg	<b>0.32 ml</b>	8.5 mg	<b>0.43 ml*</b>
125 mg/2ml	<b>Methylprednisolone IV</b>	13 mg	<b>0.21 ml*</b>	17 mg	<b>0.27 ml</b>
5 mg/ml	<b>Midazolam IV / IO</b>	0.65 mg	<b>0.13 ml</b>	0.85 mg	<b>0.17 ml</b>
5 mg/ml	<b>Midazolam IN / IM</b>	1.3 mg	<b>0.26 ml</b>	1.7 mg	<b>0.34 ml</b>
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	0.7 mg	<b>0.7 ml</b>	0.9 mg	<b>0.9 ml</b>
2 mg/ml	<b>Ondansetron IV</b>	NA	<b>NA</b>	NA	<b>NA</b>
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	6.5 mEq	<b>6.5 ml</b>	8.5 mEq	<b>8.5 ml</b>

\* 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)	<b>Epinephrine IV / IO</b>	0.1 mg	1.0 ml
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.15 mg	0.15 ml
3 mg /ml	<b>Adenosine IV / IO</b>	1.0 mg	0.35 ml
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	3 ml
50mg/ml	<b>Amiodarone IV / IO</b>	50 mg	1.0 ml
0.1mg/ml	<b>Atropine IV / IO</b>	0.21 mg	2.1 ml
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	210 mg	2.1 ml
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	5.0 g	50 ml
50 mg/ml	<b>Diphenhydramine IV / IM</b>	10 mg	0.2 ml
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	NA	NA
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	2.5 ml
50 mg/ml	<b>Ketamine IV</b>	NA	NA
50 mg/ml	<b>Ketamine IM</b>	NA	NA
20 mg/ml	<b>Lidocaine IV / IO</b>	10 mg	0.5 ml
125 mg/2ml	<b>Methylprednisolone IV</b>	20 mg	0.32 ml
5 mg/ml	<b>Midazolam IV / IO</b>	1.0 mg	0.2 ml
5 mg/ml	<b>Midazolam IN / IM</b>	2 mg	0.4 ml
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	1.0 mg	1.0 ml
2 mg/ml	<b>Ondansetron IV</b>	NA	NA
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	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)	<b>Epinephrine IV / IO</b>	0.13 mg	1.3 ml
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.15 mg	0.15 ml
3 mg /ml	<b>Adenosine IV / IO</b>	1.3 mg	0.45 ml
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	3 ml
50mg/ml	<b>Amiodarone IV / IO</b>	65 mg	1.3 ml
0.1mg/ml	<b>Atropine IV / IO</b>	0.26 mg	2.6 ml
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	260 mg	2.6 ml
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	6.5 g	65 ml
50 mg/ml	<b>Diphenhydramine IV / IM</b>	13 mg	0.26 ml
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	13 mcg	0.36 ml *
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	2.5 ml
50 mg/ml	<b>Ketamine IV</b>	NA	NA
50 mg/ml	<b>Ketamine IM</b>	NA	NA
20 mg/ml	<b>Lidocaine IV / IO</b>	13 mg	0.65 ml
125 mg/2ml	<b>Methylprednisolone IV</b>	26 mg	0.42 ml*
5 mg/ml	<b>Midazolam IV / IO</b>	1.3 mg	0.26 ml
5 mg/ml	<b>Midazolam IN / IM</b>	2.6 mg	0.52 ml
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	1.3 mg	1.3 ml
2 mg/ml	<b>Ondansetron IV</b>	NA	NA
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	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)	<b>Epinephrine IV / IO</b>	0.17 mg	1.7 ml
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.3 mg	0.3 ml
3 mg /ml	<b>Adenosine IV / IO</b>	1.7 mg	0.57 ml
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	3 ml
50mg/ml	<b>Amiodarone IV / IO</b>	80mg	1.7 ml
0.1mg/ml	<b>Atropine IV / IO</b>	0.33 mg	3.3 ml
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	330 mg	3.3 ml
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	8.5 g	85 ml
50 mg/ml	<b>Diphenhydramine IV / IM</b>	17 mg	0.34 ml
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	17 mcg	0.44 ml*
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	2.5 ml
50 mg/ml	<b>Ketamine IV</b>	NA	NA
50 mg/ml	<b>Ketamine IM</b>	NA	NA
20 mg/ml	<b>Lidocaine IV / IO</b>	17 mg	0.85 ml
125 mg/2ml	<b>Methylprednisolone IV</b>	34 mg	0.54 ml*
5 mg/ml	<b>Midazolam IV / IO</b>	1.7 mg	0.34 ml
5 mg/ml	<b>Midazolam IN / IM</b>	3.4 mg	0.68 ml
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	1.7 mg	1.7 ml
2 mg/ml	<b>Ondansetron IV</b>	NA	NA
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	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)	<b>Epinephrine IV / IO</b>	0.21 mg	<b>2.1 ml</b>
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.3 mg	<b>0.3 ml</b>
3 mg /ml	Adenosine IV / IO	2.1 mg	<b>0.7 ml</b>
2.5mg/3ml	Albuterol Neb	2.5 mg	<b>3 ml</b>
50mg/ml	Amiodarone IV / IO	105 mg	<b>2.1 ml</b>
0.1mg/ml	Atropine IV / IO	0.42 mg	<b>4.2 ml</b>
100mg/ml	Calcium Chloride 10% IV/IO	420 mg	<b>4.2 ml</b>
0.1g/ml	Dextrose 10 % IV / IO	10.5 g	<b>105 ml</b>
50 mg/ml	Diphenhydramine IV / IM	21 mg	<b>0.42 ml</b>
50 mcg/ml	Fentanyl IV / IO / IN / IM	21 mcg	<b>0.52 ml*</b>
0.5 mg/2.5ml	Ipratropium (Atrovent) Neb	0.5 mg	<b>2.5 ml</b>
50 mg/ml	Ketamine IV	NA	<b>NA</b>
50 mg/ml	Ketamine IM	NA	<b>NA</b>
20 mg/ml	Lidocaine IV / IO	20 mg	<b>1.0 ml</b>
125 mg/2ml	Methylprednisolone IV	42 mg	<b>0.67 ml*</b>
5 mg/ml	<b>Midazolam IV / IO</b>	<b>2.0 mg</b>	<b>0.4 ml</b>
5 mg/ml	<b>Midazolam IN / IM</b>	<b>4.0 mg</b>	<b>0.8 ml</b>
1 mg/ml	Naloxone IV / IO/ IN	2.0 mg	<b>2.0 ml</b>
2 mg/ml	Ondansetron IV	NA	<b>NA</b>
1 mEq / ml	Sodium Bicarbonate IV / IO	21 mEq	<b>21 ml</b>

\* 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)	<b>Epinephrine IV / IO</b>	0.27 mg	2.7 ml
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.3 mg	0.3 ml
3 mg /ml	<b>Adenosine IV / IO</b>	2.7 mg	0.9 ml
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	3 ml
50mg/ml	<b>Amiodarone IV / IO</b>	130 mg	2.7 ml
0.1mg/ml	<b>Atropine IV / IO</b>	0.5 mg	5.0 ml
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	500 mg	5.0 ml
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	13.5 g	135 ml
50 mg/ml	<b>Diphenhydramine IV / IM</b>	27 mg	0.54 ml
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	27 mcg	0.64 ml*
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	2.5 ml
50 mg/ml	<b>Ketamine IV **</b>	27 mg	0.54 ml (IV)
50 mg/ml	<b>Ketamine IM **</b>	140 mg	2.8 ml (IM)
20 mg/ml	<b>Lidocaine IV / IO</b>	27 mg	1.3 ml
125 mg/2ml	<b>Methylprednisolone IV</b>	54 mg	0.86 ml*
5 mg/ml	<b>Midazolam IV / IO</b>	2.5 mg	0.5 ml
5 mg/ml	<b>Midazolam IN</b>	5.4 mg	1.1 ml (IN)*
5 mg/ml	<b>Midazolam IM</b>	5.0 mg	1.0 ml (IM)
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	2.0 mg	2.0 ml
2 mg/ml	<b>Ondansetron IV</b>	NA	NA
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	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)	<b>Epinephrine IV / IO</b>	0.33 mg	3.3 ml
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.5 mg	0.5 ml
3 mg /ml	<b>Adenosine IV / IO</b>	3.3 mg	1.1 ml
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	3 ml
50mg/ml	<b>Amiodarone IV / IO</b>	165 mg	3.3 ml
0.1mg/ml	<b>Atropine IV / IO</b>	0.5 mg	5.0 ml
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	500 mg	5.0 ml
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	16.5 g	165 ml
50 mg/ml	<b>Diphenhydramine IV / IM</b>	33 mg	0.66 ml
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	33 mcg	0.76 ml*
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	2.5 ml
50 mg/ml	<b>Ketamine IV **</b>	33 mg	0.66 ml (IV)
50 mg/ml	<b>Ketamine IM **</b>	165 mg	3.3 ml (IM)
20 mg/ml	<b>Lidocaine IV / IO</b>	33 mg	1.7 ml
125 mg/2ml	<b>Methylprednisolone IV</b>	66 mg	1.1 ml*
5 mg/ml	<b>Midazolam IV / IO</b>	2.5 mg	0.5 ml
5 mg/ml	<b>Midazolam IN</b>	6.6 mg	1.3 ml (IN)*
5 mg/ml	<b>Midazolam IM</b>	5.0 mg	1.0 ml (IM)
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	2.0 mg	2.0 ml
2 mg/ml	<b>Ondansetron IV</b>	NA	NA
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	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)	<b>Epinephrine IV / IO</b>	0.4 mg	4.0 ml
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.5 mg	0.5 ml
3 mg /ml	<b>Adenosine IV / IO</b>	4.0 mg	1.3 ml*
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	3 ml
50mg/ml	<b>Amiodarone IV / IO</b>	200 mg	4.0 ml
0.1mg/ml	<b>Atropine IV / IO</b>	0.5 mg	5.0 ml
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	500 mg	5.0 ml
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	20.0 g	200 ml
50 mg/ml	<b>Diphenhydramine IV / IM</b>	40 mg	0.8 ml
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	40 mcg	0.9 ml*
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	2.5 ml
50 mg/ml	<b>Ketamine IV **</b>	40 mg	0.8 ml (IV)
50 mg/ml	<b>Ketamine IM **</b>	200 mg	4.0 ml (IM)
20 mg/ml	<b>Lidocaine IV / IO</b>	40 mg	2.0 ml
125 mg/2ml	<b>Methylprednisolone IV</b>	80 mg	1.3 ml*
5 mg/ml	<b>Midazolam IV / IO</b>	2.5 mg	0.5 ml
5 mg/ml	<b>Midazolam IN</b>	8.0 mg	1.6 ml (IN)*
5 mg/ml	<b>Midazolam IM</b>	5.0 mg	1.0 ml (IM)
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	2.0 mg	2.0 ml
2 mg/ml	<b>Ondansetron IV / PO</b>	4.0 mg	2.0 ml (or 1 tablet)
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	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)	<b>Epinephrine IV / IO</b>	0.45 mg	<b>4.5 ml</b>
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.5 mg	<b>0.5 ml</b>
3 mg /ml	<b>Adenosine IV / IO</b>	4.5 mg	<b>1.5 ml</b>
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	<b>3 ml</b>
50mg/ml	<b>Amiodarone IV / IO</b>	225 mg	<b>4.5 ml</b>
0.1mg/ml	<b>Atropine IV / IO</b>	0.5 mg	<b>5.0 ml</b>
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	500 mg	<b>5.0 ml</b>
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	22.5 g	<b>225 ml</b>
50 mg/ml	<b>Diphenhydramine IV / IM</b>	45 mg	<b>0.9 ml</b>
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	45 mcg	<b>1.0 ml*</b>
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	<b>2.5 ml</b>
50 mg/ml	<b>Ketamine IV **</b>	45 mg	<b>0.9 ml (IV)</b>
50 mg/ml	<b>Ketamine IM **</b>	225 mg	<b>4.5 ml (IM)</b>
20 mg/ml	<b>Lidocaine IV / IO</b>	45 mg	<b>2.3 ml*</b>
125 mg/2ml	<b>Methylprednisolone IV</b>	90 mg	<b>1.5 ml*</b>
5 mg/ml	<b>Midazolam IV / IO</b>	2.5 mg	<b>0.5 ml</b>
5 mg/ml	<b>Midazolam IN</b>	9.0 mg	<b>1.8 ml (IN)</b>
5 mg/ml	<b>Midazolam IM</b>	5.0 mg	<b>1.0 ml (IM)</b>
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	2.0 mg	<b>2.0 ml</b>
2 mg/ml	<b>Ondansetron IV / PO</b>	4.0 mg	<b>2.0 ml (or 1 tablet)</b>
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	45 mEq	<b>45 ml</b>

\* 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)	<b>Epinephrine IV / IO</b>	0.5 mg	<b>5.0 ml</b>
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.5 mg	<b>0.5 ml</b>
3 mg /ml	<b>Adenosine IV / IO</b>	5.0 mg	<b>1.7 ml*</b>
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	<b>3 ml</b>
50mg/ml	<b>Amiodarone IV / IO</b>	250 mg	<b>5.0 ml</b>
0.1mg/ml	<b>Atropine IV / IO</b>	0.5 mg	<b>5.0 ml</b>
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	500 mg	<b>5.0 ml</b>
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	25.0 g	<b>250 ml</b>
50 mg/ml	<b>Diphenhydramine IV / IM</b>	50 mg	<b>1.0 ml</b>
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	50mcg	<b>1.1 ml</b>
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	<b>2.5 ml</b>
50 mg/ml	<b>Ketamine IV **</b>	50 mg	<b>1.0 ml (IV)</b>
50 mg/ml	<b>Ketamine IM **</b>	250 mg	<b>5.0 ml (IM)</b>
20 mg/ml	<b>Lidocaine IV / IO</b>	50 mg	<b>2.5 ml</b>
125 mg/2ml	<b>Methylprednisolone IV</b>	100 mg	<b>1.6 ml</b>
5 mg/ml	<b>Midazolam IV / IO</b>	2.5 mg	<b>0.5 ml</b>
5 mg/ml	<b>Midazolam IN</b>	10.0 mg	<b>2.0 ml (IN)</b>
5 mg/ml	<b>Midazolam IM</b>	5.0 mg	<b>1.0 ml (IM)</b>
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	2.0 mg	<b>2.0 ml</b>
2 mg/ml	<b>Ondansetron IV / PO</b>	4.0 mg	<b>2.0 ml (or 1 tablet)</b>
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	50 mEq	<b>50 ml</b>

\* 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)	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)	<b>Epinephrine IV / IO</b>	0.55 mg	<b>5.5 ml</b>
1 mg/ml (1ml)	<b>Epinephrine IM</b>	0.5 mg	<b>0.5 ml</b>
3 mg /ml	<b>Adenosine IV / IO</b>	5.5 mg	<b>1.8 ml*</b>
2.5mg/3ml	<b>Albuterol Neb</b>	2.5 mg	<b>3 ml</b>
50mg/ml	<b>Amiodarone IV / IO</b>	275 mg	<b>5.5 ml</b>
0.1mg/ml	<b>Atropine IV / IO</b>	0.5 mg	<b>5.0 ml</b>
100mg/ml	<b>Calcium Chloride 10% IV/IO</b>	500 mg	<b>5.0 ml</b>
0.1g/ml	<b>Dextrose 10 % IV / IO</b>	25.0 g	<b>250 ml</b>
50 mg/ml	<b>Diphenhydramine IV / IM</b>	50 mg	<b>1.0 ml</b>
50 mcg/ml	<b>Fentanyl IV / IO / IN / IM</b>	55 mcg	<b>1.2 ml*</b>
0.5 mg/2.5ml	<b>Ipratropium (Atrovent) Neb</b>	0.5 mg	<b>2.5 ml</b>
50 mg/ml	<b>Ketamine IV **</b>	55 mg	<b>1.1 ml (IV)</b>
50 mg/ml	<b>Ketamine IM **</b>	250 mg	<b>5 ml (IM)</b>
20 mg/ml	<b>Lidocaine IV / IO</b>	55 mg	<b>2.75 ml</b>
125 mg/2ml	<b>Methylprednisolone IV</b>	110 mg	<b>1.8 ml*</b>
5 mg/ml	<b>Midazolam IV / IO</b>	2.5 mg	<b>0.5 ml</b>
5 mg/ml	<b>Midazolam IN</b>	10.0 mg	<b>2.0 ml (IN)</b>
5 mg/ml	<b>Midazolam IM</b>	5.0 mg	<b>1.0 ml (IM)</b>
1 mg/ml	<b>Naloxone IV / IO/ IN</b>	2.0 mg	<b>2.0 ml</b>
2 mg/ml	<b>Ondansetron IV / PO</b>	4.0 mg	<b>2.0 ml (or 1 tablet)</b>
1 mEq / ml	<b>Sodium Bicarbonate IV / IO</b>	55 mEq	<b>55 ml</b>

\* 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



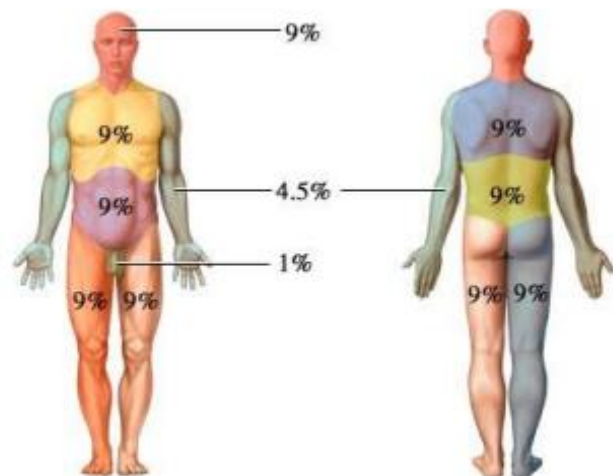
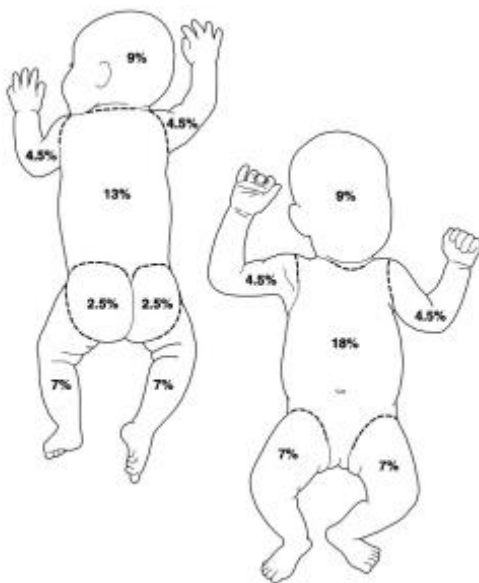
## Other Medications

			Epi 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		Ketamine IM ** <u>Not</u> 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	350 mg	14 ml	4.5 mg	0.23 ml*	NA	
2 months	8.8 lbs	4 kg	0.15 mg			0.5mg	350mg	14 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	700 mg	28 ml	10.5 ml	0.53 ml	NA	
6-11 months	17 - 20 lbs	8 - 9 kg	0.15 mg			0.5mg	700 mg	28 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	1050 mg	42ml	20 mg	1.0 ml*	NA	
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*	NA	
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 *	NA	
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*	135 mg	2.7 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	165 mg	3.3 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	200 mg	4.0 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	225 mg	4.5 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	250 mg	5.0 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	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 2<sup>nd</sup> and 3<sup>rd</sup> 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:

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

\*\* See Clinical Pearls