

Pediatric and Neonatal Emergency Resuscitation Dose Book



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Pediatric and Neonatal Emergency Resuscitation Dose Book

BACKGROUND: This dosing book has been designed to help assist our medical staff during pediatric and neonatal emergencies, streamlining the dosing process and serving as an institution specific guideline. Doses are in conjunction with up-to-date PALS and NRP guidelines, and reflective of products stored in our pediatric/neonatal medication crash cart trays.

DOSE ROUNDING: To provide measurable volumes for staff to draw up medications, volumes > 1 mL have been rounded to the nearest tenth decimal place and volumes less than 1 mL have been rounded to the nearest hundredths place. The rounding volumes are less than a 10% difference which are acceptable amounts. As the weights approach ≥ 50 kg, usual adult doses are populated that would be utilized in a code (e.g. Epi Code Dose, Sodium Bicarbonate).

SHEET COLORS: To help with dose referencing the correlating colors for weight/age on the Broselow Zones are located on top of each sheet. Please refer to the table below to determine the Broselow Zone for patient if actual weight is unknown.

<i>Broselow-Luten Zones</i>		
Zone	Patient Weight	Age
Pink	6-7 kg	3-5 months
Red	8-9 kg	6-11 months
Purple	10-11 kg	12-24 months
Yellow	12-14 kg	2 yrs
White	15-18 kg	3-4 yrs
Blue	19-23 kg	5-6 yrs
Orange	24-29 kg	7-9 yrs
Green	30-36 kg	10-11 yrs

Adapted from 2025 edition of the Broselow Tape

Document History

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
12/10/2024	Pharmacy Review Committee		New
1/6/2025	P&T Committee		

RECORD # _____



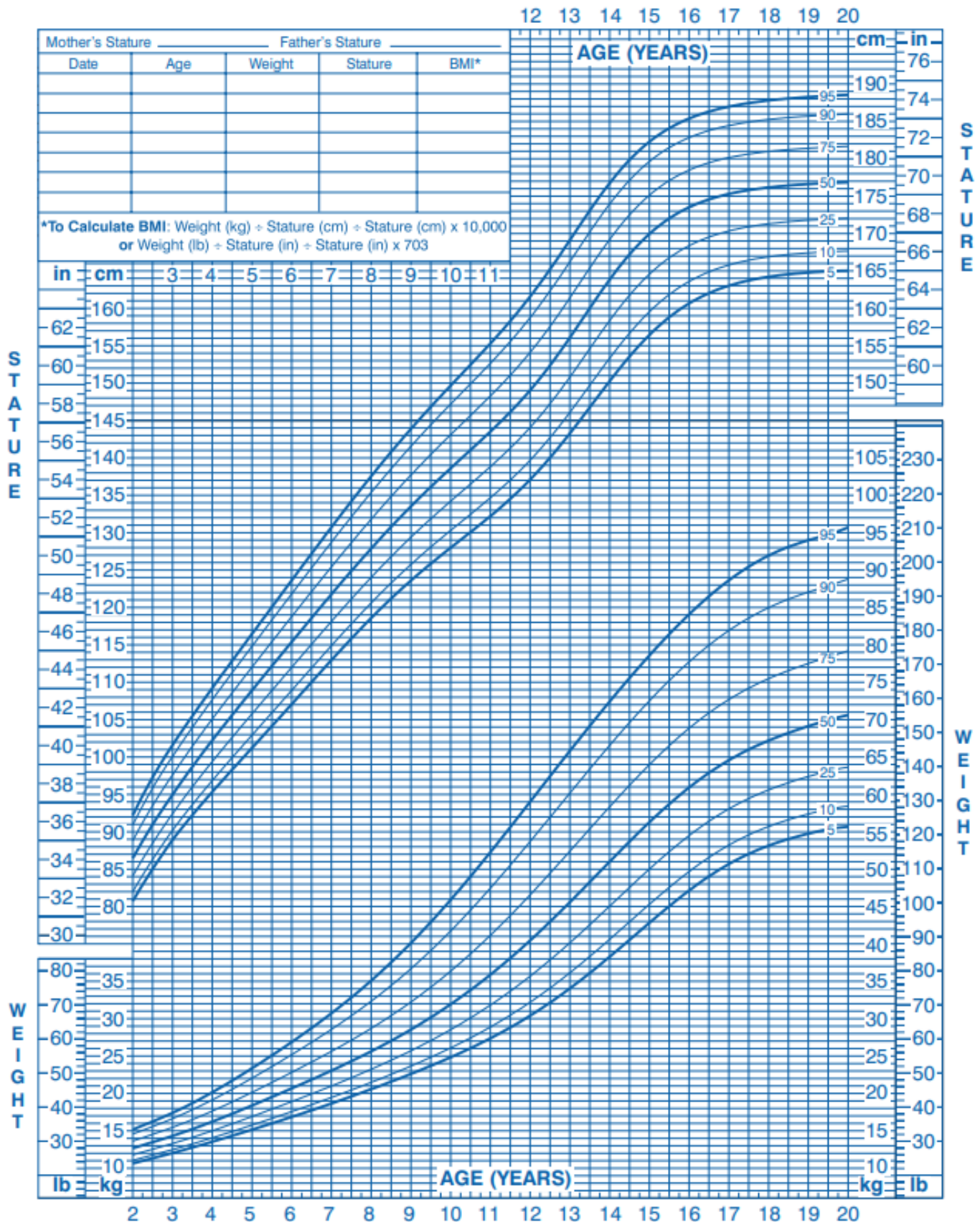
RECORD # _____



2 to 20 years: Boys Stature-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 11/21/00).

SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>



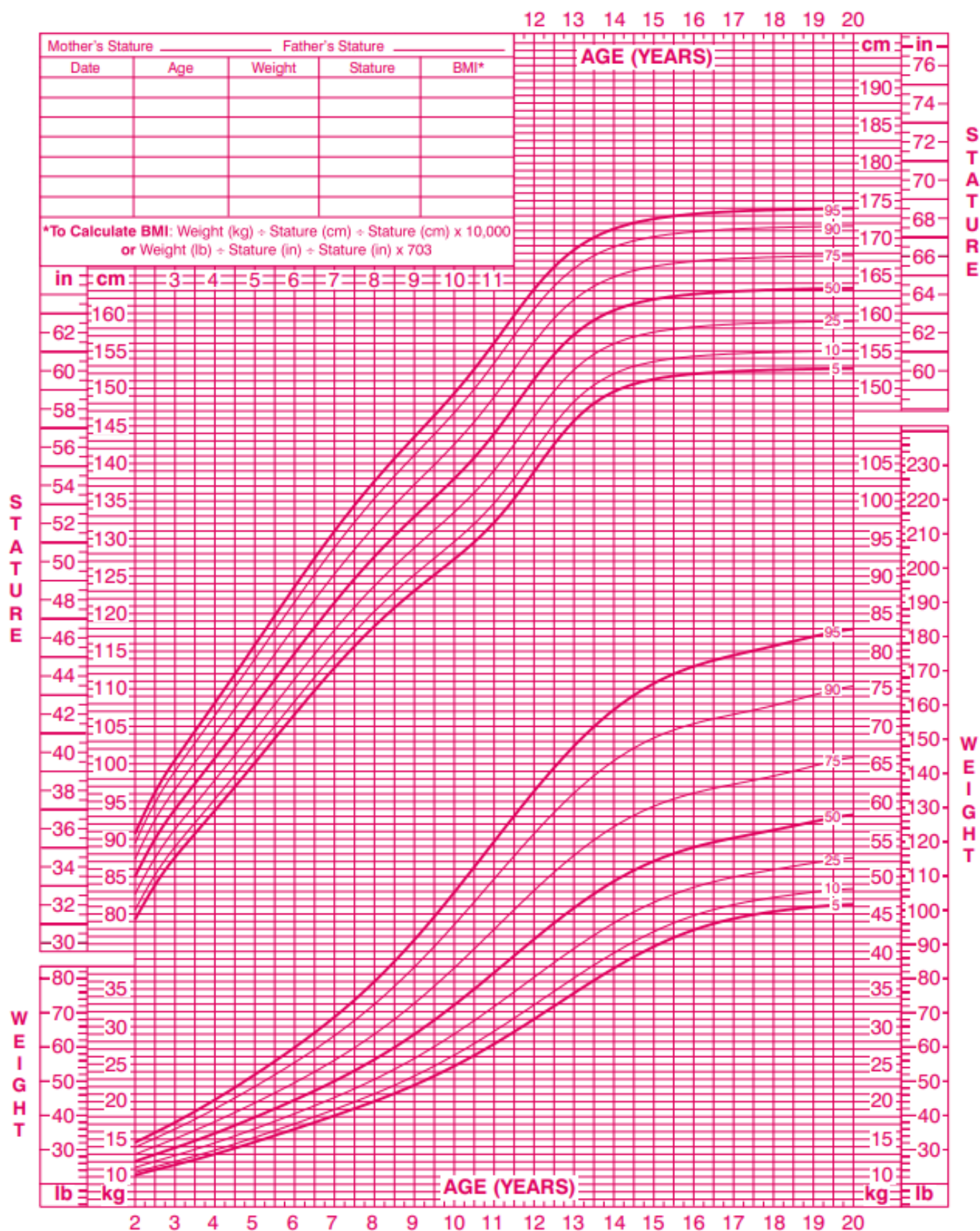
SAFER • HEALTHIER • PEOPLE™

2 to 20 years: Girls

Stature-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 11/21/00).

SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).

<http://www.cdc.gov/growthcharts>



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CIRCULATION

Assessment of circulation in pediatrics involves more than checking the pulse and blood pressure. The color and temperature of the skin and mucous membranes can help to assess effective circulation. Pale or blue skin indicates poor tissue perfusion. Capillary refill time is also a useful assessment in pediatrics. Adequately perfused skin will rapidly refill with blood after it is squeezed (e.g. by bending the tip of the finger at the nail bed). Inadequately perfused tissues will take longer than two seconds to respond. Abnormally, cool skin can also suggest poor circulation.

The normal heart rate and blood pressure in pediatrics are quite different than in adults and change with age. Likewise, heart rates are slower when children and infants are asleep. Most centers will have acceptable ranges that they use for normal and abnormal heart rates for a given age. While you should follow your local guidelines, approximate ranges are listed in (Table 5).

AGE	NORMAL HEART RATE (AWAKE)	NORMAL HEART RATE (ASLEEP)	NORMAL BLOOD PRESSURE (SYSTOLIC)	NORMAL BLOOD PRESSURE (DIASTOLIC)	HYPOTENSION BLOOD PRESSURE (SYSTOLIC)
Neonate	85-190	80-160	60-75	30-45	<60
One Month	85-190	80-160	70-95	35-55	<70
Two Months	85-190	80-160	70-95	40-60	<70
Three Months	100-190	75-160	80-100	45-65	<70
Six Months	100-190	75-160	85-105	45-70	<70
One Year	100-190	75-160	85-105	40-60	<72
Two Years	100-140	60-90	85-105	40-65	<74
Child (2 to 10 years)	60-140	60-90	95-115	55-75	<70 + (age x 2)
Adolescent (over 10 years)	60-100	50-90	110-130	65-85	<90

PEDIATRIC MAP/SBP EQUATIONS

MAP (5th percentile at 50th height percentile)	$1.5 \times \text{age in years} + 40$
MAP (50th percentile at 50th height percentile)	$1.5 \times \text{age in years} + 55$
SBP (5th percentile at 50th height percentile)	$2 \times \text{age in years} + 65$
SBP (50th percentile at 50th height percentile)	$2 \times \text{age in years} + 85$

In pediatrics, blood pressure is interpreted differently from adults. Instead of fixed cut offs - age, sex, and height-based percentiles are utilized. The 50th height percentile means that the reference number is based on the child of average height for their age.

The 5th percentile of MAP refers to the lower limit of normal with 95% of healthy children of that same age/sex/height having a MAP above that number. If a MAP is below the 5th percentile, that is considered abnormally low (hypotensive). Consider targeting MAP/SBP to between the 5th and 50th percentile or greater than 50th percentile for age.

Neonatal Emergency Dosage Guidelines

0.5 kg

(Note: use for babies 0.476 – 0.525 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.01 mg	0.1 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.05 mg	0.5 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		5 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.05 mg	0.17 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.1 mg	0.33 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	50 mg	0.5 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.1 g	1 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.005 mg	0.05 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.05 mg	0.5 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.1 mg	1 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.5 mEq	1 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.01 mg	0.1 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.5 mcg	0.1 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.05 mg	0.25 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.05 mg	0.05 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.15 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.19 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1 – 2 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.25 – 0.5 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.55 kg

(Note: use for babies 0.526 – 0.575 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.011 mg	0.11 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.055 mg	0.55 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		5.5 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.055 mg	0.18 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.11 mg	0.37 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	55 mg	0.55 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.11 g	1.1 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.0055 mg	0.06 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.055 mg	0.55 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.11 mg	1.1 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.55 mEq	1.1 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.011 mg	0.11 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.55 mcg	0.11 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.055 mg	0.28 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.055 mg	0.06 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.17 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.21 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.1 – 2.2 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.28 – 0.55 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.6 kg

(Note: use for babies 0.576 – 0.625 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.012 mg	0.12 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.06 mg	0.6 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		6 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.06 mg	0.2 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.12 mg	0.4 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	60 mg	0.6 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.12 g	1.2 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.006 mg	0.06 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.06 mg	0.6 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.12 mg	1.2 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.6 mEq	1.2 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.012 mg	0.12 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.6 mcg	0.12 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.06 mg	0.3 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.06 mg	0.06 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.18 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.23 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.2 – 2.4 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.3 – 0.6 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.65 kg

(Note: use for babies 0.626 – 0.675 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.013 mg	0.13 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.065 mg	0.65 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		6.5 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.065 mg	0.22 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.13 mg	0.43 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	65 mg	0.65 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.13 g	1.3 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.0065 mg	0.07 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.065 mg	0.65 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.13 mg	1.3 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.65 mEq	1.3 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.013 mg	0.13 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.65 mcg	0.13 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.065 mg	0.33 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.065 mg	0.07 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.2 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.24 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.3 – 2.6 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.33 – 0.65 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.7 kg

(Note: use for babies 0.676 – 0.725 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.014 mg	0.14 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.07 mg	0.7 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		7 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.07 mg	0.23 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.14 mg	0.47 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	70 mg	0.7 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.14 g	1.4 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.007 mg	0.07 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.07 mg	0.7 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.14 mg	1.4 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.7 mEq	1.4 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.014 mg	0.14 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.7 mcg	0.14 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.07 mg	0.35 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.07 mg	0.07 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.21 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.26 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.4 – 2.8 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.35 – 0.7 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.75 kg

(Note: use for babies 0.726 – 0.775 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.015 mg	0.15 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.075 mg	0.75 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		7.5 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.075 mg	0.25 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.15 mg	0.5 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	75 mg	0.75 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.15 g	1.5 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.0075 mg	0.08 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.075 mg	0.75 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.15 mg	1.5 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.75 mEq	1.5 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.015 mg	0.15 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.75 mcg	0.15 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.075 mg	0.38 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.075 mg	0.08 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.23 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.28 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.5 – 3 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.38 – 0.75 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.8 kg

(Note: use for babies 0.776 – 0.825 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.016 mg	0.16 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.08 mg	0.8 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		8 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.08 mg	0.27 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.16 mg	0.53 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	80 mg	0.8 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.16 g	1.6 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.008 mg	0.08 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.08 mg	0.8 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.16 mg	1.6 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.8 mEq	1.6 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.016 mg	0.16 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.8 mcg	0.16 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.08 mg	0.4 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.08 mg	0.08 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.24 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.3 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.6 – 3.2 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.4 – 0.8 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.85 kg

(Note: use for babies 0.826 – 0.875 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.017 mg	0.17 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.085 mg	0.85 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		8.5 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.085 mg	0.28 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.17 mg	0.57 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	85 mg	0.85 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.17 g	1.7 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.0085 mg	0.09 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.085 mg	0.85 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.17 mg	1.7 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.85 mEq	1.7 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.017 mg	0.17 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.85 mcg	0.17 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.085 mg	0.43 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.085 mg	0.09 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.26 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.32 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.7 – 3.4 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.43 – 0.85 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.9 kg

(Note: use for babies 0.876 – 0.925 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.018 mg	0.18 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.09 mg	0.9 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		9 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.09 mg	0.3 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.18 mg	0.6 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	90 mg	0.9 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.18 g	1.8 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.009 mg	0.09 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.09 mg	0.9 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.18 mg	1.8 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.9 mEq	1.8 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.018 mg	0.18 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.9 mcg	0.18 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.09 mg	0.45 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.09 mg	0.09 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.27 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.34 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.8 – 3.6 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.45 – 0.9 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

0.95 kg

(Note: use for babies 0.926 – 0.975 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.019 mg	0.19 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.095 mg	0.95 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		9.5 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.095 mg	0.32 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.19 mg	0.63 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	95 mg	0.95 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.19 g	1.9 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.0095 mg	0.1 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>		0.1 mg/kg IV/IM	0.095 mg	0.95 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>		0.2 mg/kg ETT	0.19 mg	1.9 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	0.95 mEq	1.9 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.019 mg	0.19 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	0.95 mcg	0.19 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.095 mg	0.48 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.095 mg	0.1 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.29 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.36 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	1.9 – 3.8 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.48 – 0.95 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1 kg

(Note: use for babies 0.976 – 1.050 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.02 mg	0.2 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.1 mg	1 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		10 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.1 mg	0.33 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.2 mg	0.67 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	100 mg	1 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.2 g	2 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.01 mg	0.1 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.1 mg	0.1 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.2 mg	0.2 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1 mEq	2 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.02 mg	0.2 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1 mcg	0.2 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.1 mg	0.5 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.1 mg	0.1 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.3 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.38 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	2 – 4 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.5 – 1 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.1 kg

(Note: use for babies 1.051 – 1.150 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.022 mg	0.22 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.11 mg	1.1 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		11 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.11 mg	0.37 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.22 mg	0.73 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	110 mg	1.1 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.22 g	2.2 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.011 mg	0.11 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.11 mg	0.11 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.22 mg	0.22 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.1 mEq	2.2 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.022 mg	0.22 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.1 mcg	0.22 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.11 mg	0.55 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.11 mg	0.11 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.33 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.41 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	2.2 – 4.4 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.55 – 1.1 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.2 kg

(Note: use for babies 1.151 – 1.250 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.024 mg	0.24 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.12 mg	1.2 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		12 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.12 mg	0.4 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.24 mg	0.8 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	120 mg	1.2 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.24 g	2.4 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.012 mg	0.12 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.12 mg	0.12 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.24 mg	0.24 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.2 mEq	2.4 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.024 mg	0.24 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.2 mcg	0.24 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.12 mg	0.6 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.12 mg	0.12 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.36 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.45 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	2.4 – 4.8 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.6 – 1.2 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.3 kg

(Note: use for babies 1.251 – 1.350 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.026 mg	0.26 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.13 mg	1.3 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		13 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.13 mg	0.43 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.26 mg	0.87 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	130 mg	1.3 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.26 g	2.6 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.013 mg	0.13 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.13 mg	0.13 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.26 mg	0.26 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.3 mEq	2.6 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.026 mg	0.26 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.3 mcg	0.26 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.13 mg	0.65 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.13 mg	0.13 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.39 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.49 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	2.6 – 5.2 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.65 – 1.3 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.4 kg

(Note: use for babies 1.351 – 1.450 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.028 mg	0.28 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.14 mg	1.4 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		14 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.14 mg	0.47 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.28 mg	0.93 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	140 mg	1.4 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.28 g	2.8 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.014 mg	0.14 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.14 mg	0.14 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.28 mg	0.28 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.4 mEq	2.8 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.028 mg	0.28 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.4 mcg	0.28 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.14 mg	0.7 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.14 mg	0.14 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.42 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.53 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	2.8 – 5.6 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.7 – 1.4 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.5 kg

(Note: use for babies 1.451 – 1.550 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.03 mg	0.3 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.15 mg	1.5 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		15 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.15 mg	0.5 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.3 mg	1 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	150 mg	1.5 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.3 g	3 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.015 mg	0.15 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.15 mg	0.15 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.3 mg	0.3 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.5 mEq	3 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.03 mg	0.3 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.5 mcg	0.3 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.15 mg	0.75 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.15 mg	0.15 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.45 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.56 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	3 – 6 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.75 – 1.5 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.6 kg

(Note: use for babies 1.551 – 1.650 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.032 mg	0.32 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.16 mg	1.6 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		16 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.16 mg	0.53 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.32 mg	1.1 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	160 mg	1.6 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.32 g	3.2 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.016 mg	0.16 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.16 mg	0.16 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.32 mg	0.32 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.6 mEq	3.2 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.032 mg	0.32 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.6 mcg	0.32 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.16 mg	0.8 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.16 mg	0.16 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.48 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.6 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	3.2 – 6.4 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.8 – 1.6 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.7 kg

(Note: use for babies 1.651 – 1.750 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.034 mg	0.34 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.17 mg	1.7 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		17 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.17 mg	0.57 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.34 mg	1.1 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	170 mg	1.7 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.34 g	3.4 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.017 mg	0.17 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.17 mg	0.17 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.34 mg	0.34 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.7 mEq	3.4 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.034 mg	0.34 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.7 mcg	0.34 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.17 mg	0.85 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.17 mg	0.17 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.51 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.64 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	3.4 – 6.8 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.85 – 1.7 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.8 kg

(Note: use for babies 1.751 – 1.850 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.036 mg	0.36 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.18 mg	1.8 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		18 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.18 mg	0.6 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.36 mg	1.2 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	180 mg	1.8 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.36 g	3.6 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.018 mg	0.18 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.18 mg	0.18 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.36 mg	0.36 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.8 mEq	3.6 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.036 mg	0.36 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.8 mcg	0.36 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.18 mg	0.9 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.18 mg	0.18 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.54 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.68 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	3.6 – 7.2 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.9 – 1.8 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

1.9 kg

(Note: use for babies 1.851 – 1.950 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.038 mg	0.38 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.19 mg	1.9 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		19 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.19 mg	0.63 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.38 mg	1.3 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	190 mg	1.9 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.38 g	3.8 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.019 mg	0.19 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.19 mg	0.19 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.38 mg	0.38 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	1.9 mEq	3.8 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.038 mg	0.38 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	1.9 mcg	0.38 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.19 mg	0.95 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.19 mg	0.19 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.05 mL dilute to 25 mL D5W	2 mcg/mL	0.01 mcg/kg/minute = 0.57 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.71 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	3.8 – 7.6 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	0.95 – 1.9 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

2 kg

(Note: use for babies 1.951 – 2.050 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes <1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.04 mg	0.4 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.2 mg	2 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		20 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.2 mg	0.67 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.4 mg	1.3 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	200 mg	2 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.4 g	4 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.02 mg	0.2 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.2 mg	0.2 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.4 mg	0.4 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	2 mEq	4 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.04 mg	0.4 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	2 mcg	0.4 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.2 mg	1 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.2 mg	0.2 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.12 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.75 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	4 – 8 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1 – 2 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

2.1 kg

(Note: use for babies 2.051 – 2.150 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.042 mg	0.42 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.21 mg	2.1 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		21 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.21 mg	0.7 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.42 mg	1.4 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	210 mg	2.1 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.42 g	4.2 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.021 mg	0.21 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.21 mg	0.21 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.42 mg	0.42 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	2.1 mEq	4.2 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.042 mg	0.42 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	2.1 mcg	0.42 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.21 mg	1.1	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.21 mg	0.21 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.13 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.79 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	4.2 – 8.4 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.1 – 2.2 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

2.2 kg

(Note: use for babies 2.151 – 2.250 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.044 mg	0.44 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.22 mg	2.2 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		22 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.22 mg	0.73 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.44 mg	1.5 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	220 mg	2.2 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.44 g	4.4 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.022 mg	0.22 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.22 mg	0.22 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.44 mg	0.44 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	2.2 mEq	4.4 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.044 mg	0.44 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	2.2 mcg	0.44 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.22 mg	1.1 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.22 mg	0.22 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.13 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.83 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	4.4 – 8.8 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.1 – 2.2 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

2.3 kg

(Note: use for babies 2.251 – 2.350 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.046 mg	0.46 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.23 mg	2.3 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		23 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.23 mg	0.77 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.46 mg	1.5 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	230 mg	2.3 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.46 g	4.6 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.023 mg	0.23 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.23 mg	0.23 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.46 mg	0.46 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	2.3 mEq	4.6 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.046 mg	0.46 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	2.3 mcg	0.46 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.23 mg	1.2 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.23 mg	0.23 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.14 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.86 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	4.6 – 9.2 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.2 – 2.3 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

2.4 kg

(Note: use for babies 2.351 – 2.450 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.048 mg	0.48 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.24 mg	2.4 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		24 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.24 mg	0.8 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.48 mg	1.6 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	240 mg	2.4 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.48 g	4.8 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.024 mg	0.24 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.24 mg	0.24 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.48 mg	0.48 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	2.4 mEq	4.8 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.048 mg	0.48 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	2.4 mcg	0.48 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.24 mg	1.2 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.24 mg	0.24 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.14 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.9 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	4.8 – 9.6 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.2 – 2.4 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

2.5 kg

(Note: use for babies 2.451 – 2.625 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.05 mg	0.5 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.25 mg	2.5 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		25 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.25 mg	0.83 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.5 mg	1.7 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	250 mg	2.5 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.5 g	5 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.025 mg	0.25 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.25 mg	0.25 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.5 mg	0.5 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	2.5 mEq	5 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.05 mg	0.5 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	2.5 mcg	0.5 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.25 mg	1.3 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.25 mg	0.25 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.15 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 0.94 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	5 – 10 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.3 – 2.5 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

2.75 kg

(Note: use for babies 2.626 – 2.875 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.055 mg	0.55 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.275 mg	2.8 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		27.5 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.275 mg	0.92 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.55 mg	1.8 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	275 mg	2.8 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.55 g	5.5 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.0275 mg	0.28 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.275 mg	0.28 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.55 mg	0.55 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	2.75 mEq	5.5 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.055 mg	0.55 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	2.75 mcg	0.55 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.275 mg	1.4 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.275 mg	0.28 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.17 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 1.03 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	5.5 – 11 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.4 – 2.8 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

3 kg

(Note: use for babies 2.876 – 3.125 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes <1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.06 mg	0.6 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.3 mg	3 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		30 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.3 mg	1 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.6 mg	2 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	300 mg	3 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.6 g	6 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.03 mg	0.3 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.3 mg	0.3 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.6 mg	0.6 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	3 mEq	6 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.06 mg	0.6 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	3 mcg	0.6 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.3 mg	1.5 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.3 mg	0.3 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.18 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 1.13 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	6 – 12 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.5 – 3 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

3.5 kg

(Note: use for babies 3.376 – 3.625 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.07 mg	0.7 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.35 mg	3.5 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		35 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.35 mg	1.2 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.7 mg	2.3 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	350 mg	3.5 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.7 g	7 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.035 mg	0.35 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.35 mg	0.35 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.7 mg	0.7 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	3.5 mEq	7 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.07 mg	0.7 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	3.5 mcg	0.7 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.35 mg	1.8 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.35 mg	0.35 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.21 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 1.31 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	7 – 14 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	1.8 – 3.5 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

4 kg

(Note: use for babies 3.826 – 4.125 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.08 mg	0.8 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.4 mg	4 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		40 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.4 mg	1.3 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.8 mg	2.7 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	400 mg	4 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.8 g	8 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.04 mg	0.4 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.4 mg	0.4 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.8 mg	0.8 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	4 mEq	8 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.08 mg	0.8 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	4 mcg	0.8 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.4 mg	2 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.4 mg	0.4 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.24 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 1.5 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	8 – 16 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	2 – 4 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

4.5 kg

(Note: use for babies 4.376 – 4.625 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes <1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.09 mg	0.9 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.45 mg	4.5 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		45 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.45 mg	1.5 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	0.9 mg	3 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	450 mg	4.5 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	0.9 g	9 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.045 mg	0.45 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.45 mg	0.45 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	0.9 mg	0.9 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	4.5 mEq	9 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use

Rapid Sequence Intubation (RSI)

Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.09 mg	0.9 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	4.5 mcg	0.9 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.45 mg	2.3 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.45 mg	0.45 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.27 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 1.69 mL/hr

Defibrillation	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	9 – 18 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	2.3 – 4.5 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

5 kg

(Note: use for babies 4.876 – 5.250 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes ≥ 1 mL rounded to tenth place volumes <1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.1 mg	1 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.5 mg	5 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		50 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.5 mg	1.7 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	1 mg	3.3 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	500 mg	5 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	1 g	10 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.05 mg	0.5 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.5 mg	0.5 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	1 mg	1 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	5 mEq	10 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.1 mg	1 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	5 mcg	1 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.5 mg	2.5 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.5 mg	0.5 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.3 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 1.88 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	10 – 20 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	2.5 – 5 Joules	For SVT. Sedate patient whenever possible.

Neonatal Emergency Dosage Guidelines

5.5 kg

(Note: use for babies 5.251 – 5.750 kg)

Drug	Dilution	Dose/kg	Dose	Volume	Comments
Resuscitation Medications					
volumes ≥ 1 mL rounded to tenth place volumes < 1 mL rounded to hundredth place					
Epinephrine (0.1 mg/mL)	None	0.02 mg/kg IV/IO	0.11 mg	1.1 mL	Dosing range of 0.01 – 0.03 mg/kg Rapid bolus followed by 3 mL NS flush Every 3-5 min; Max dose: 1 mg
Epinephrine (0.1 mg/mL) <i>tracheal route</i>	None	0.1 mg/kg ETT	0.55 mg	5.5 mL	No flush required Proceed with manual ventilations
Volume Expanders: <i>Normal Saline</i>	None	10 mL/kg IV/IO		55 mL	Dosing range of 10 – 20 mL/kg Repeat PRN, normal saline recommended LR, 5% albumin and FFP are alternatives Give over 5-10 minutes
Adenosine (3 mg/mL) <u>Initial Dose</u>	Mix 1 mL of Adenosine in 9 mL of NS New conc: 0.3 mg/mL	0.1 mg/kg IV/IO	0.55 mg	1.8 mL	If no response in 1-2 minutes, increase dose by 0.05-0.1 mg/kg up to a maximum of 0.3 mg/kg Central line/line closest to heart preferred Rapid bolus over 1-2 seconds using a 3-way stopcock Flush immediately with 3 mL NS after each bolus EKG during administration
Adenosine (3 mg/mL) <u>Repeat Dose Q 1-2 minutes</u>		0.2 mg/kg IV/IO	1.1 mg	3.7 mL	
Calcium Gluconate 10% (100 mg/mL)	None	100 mg/kg IV/IO	550 mg	5.5 mL	Dosing range of 100 – 200 mg/kg Infuse as SLOW IV push over at least 5 minutes Central line (if possible), high risk of extravasation Monitor for bradycardia (HR <100) Administer undiluted in cardiac arrest Consider 1:1 dilution in D5W/NS if non-emergent
Dextrose 10% (0.1 g/mL)	None	0.2 g/kg IV/IO (2 mL/kg)	1.1 g	11 mL	Preferred concentration in neonatal resuscitation Consider continuous infusions, or adjusting current dextrose concentrations/rate
Naloxone (1 mg/mL) <i>(opioid induced depression)</i>	Mix 1 mL of Naloxone in 9 mL of NS New conc: 0.1 mg/mL	0.01 mg/kg IV/IM	0.055 mg	0.55 mL	Dosing range 0.001 – 0.02 mg/kg May repeat every 2 – 3 minutes as needed based on response; may need to repeat every 1 – 2 hours
Naloxone (1 mg/mL) <i>(full reversal)</i>	None	0.1 mg/kg IV/IM	0.55 mg	0.55 mL	
Naloxone (1 mg/mL) <i>(tracheal route - full reversal)</i>	None	0.2 mg/kg ETT	1.1 mg	1.1 mL	
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	None	1 mEq/kg IV/IO	5.5 mEq	11 mL	Dosing range of 1 – 2 mEq/kg Preferred concentration in infants/children <2 y/o May dilute 8.4% concentration for use
Rapid Sequence Intubation (RSI)					
Atropine (0.1 mg/mL)	None	0.02 mg/kg IV/IM	0.11 mg	1.1 mL	Dosing range of 0.01 – 0.02 mg/kg No minimum dose for premedication use Max dose: 0.5 mg
Fentanyl (50 mcg/mL)	Mix 1 mL of Fentanyl in 9 mL of NS New conc: 5 mcg/mL	1 mcg/kg IV	5.5 mcg	1.1 mL	Dosing range of 1 – 4 mcg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Morphine (2 mg/mL)	Mix 1 mL of Morphine in 9 mL of NS New conc: 0.2 mg/mL	0.1 mg/kg IV	0.55 mg	2.8 mL	Dosing range of 0.05 – 0.1 mg/kg Give SLOW IV push May cause chest wall rigidity Reverse with Naloxone
Vecuronium (10 mg vial)	Add 10 mL Sterile Water to Vecuronium vial (powder) New conc: 1 mg/mL	0.1 mg/kg IV	0.55 mg	0.55 mL	PARALYTIC

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
EPINEPHrine (1 mg/mL)	0.01 – 0.3 mcg/kg/minute (Max: 1 mcg/kg/min)	0.25 mL dilute to 25 mL D5W	10 mcg/mL	0.01 mcg/kg/minute = 0.33 mL/hr
Dopamine (40 mg/mL)	2 – 20 mcg/kg/minute	0.5 mL dilute to 25 mL D5W	800 mcg/mL	5 mcg/kg/minute = 2.06 mL/hr

Defibrillation

	Dose/kg	Dose	Comments
Manual Defibrillation	2 – 4 Joules/kg	11 – 22 Joules	For VF and VT. Start with 2 Joules/kg. Additional defibrillations should be at 4 Joules/kg.
Cardioversion Dose	0.5 – 1 Joules/kg	2.8 – 5.5 Joules	For SVT. Sedate patient whenever possible.

Pediatric Emergency Dosage Guidelines

6 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
<i>volumes rounded to nearest tenth place</i>				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.6 mg	0.2 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	30 mg	0.6 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	30 mg	0.6 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.12 mg	1.2 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	120 mg	1.2 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	600 mg	6 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	3 g	6 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	3 g	12 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.06 mg	0.6 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	6 mcg	0.6 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	0.6 mg	0.6 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.06 mg	0.6 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	6 mg	0.3 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	150 – 300 mg	3.8 – 7.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	150 – 300 mg	0.3 – 0.6 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	0.6 mg	0.6 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.06 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	6 mEq	6 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	6 mEq	12 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.12 mg	1.2 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	1.8 mg	0.9 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	9 mg	0.9 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.6 mg	0.6 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	9 mg	0.9 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	12 mg	0.6 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	6 mg	0.6 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.6 mg	0.6 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 1.44 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 2.25 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 2.25 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 1.8 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

6.5 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.65 mg	0.2 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	32.5 mg	0.7 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	32.5 mg	0.7 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.13 mg	1.3 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	130 mg	1.3 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	650 mg	6.5 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	3.25 g	6.5 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	3.25 g	13 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.065 mg	0.7 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	6.5 mcg	0.7 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	0.65 mg	0.7 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.065 mg	0.7 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	6.5 mg	0.3 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	162.5 – 325 mg	4.1 – 8.1 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	162.5 – 325 mg	0.3 – 0.6 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	0.65 mg	0.7 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.065 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	6.5 mEq	6.5 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	6.5 mEq	13 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.13 mg	1.3 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	1.95 mg	1 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	9.75 mg	1 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.65 mg	0.7 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	9.75 mg	1 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	13 mg	0.7 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	6.5 mg	0.7 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.65 mg	0.7 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 1.56 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 2.44 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 2.44 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 1.95 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.08 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

7 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.7 mg	0.2 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	35 mg	0.7 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	35 mg	0.7 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.14 mg	1.4 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	140 mg	1.4 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	700 mg	7 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	3.5 g	7 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	3.5 g	14 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.07 mg	0.7 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	7 mcg	0.7 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	0.7 mg	0.7 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.07 mg	0.7 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	7 mg	0.4 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	175 – 350 mg	4.4 – 8.8 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	175 – 350 mg	0.4 – 0.7 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	0.7 mg	0.7 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.07 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	7 mEq	7 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	7 mEq	14 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.14 mg	1.4 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	2.1 mg	1.1 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	10.5 mg	1.1 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.7 mg	0.7 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	10.5 mg	1.1 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	14 mg	0.7 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	7 mg	0.7 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.7 mg	0.7 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 1.68 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 2.63 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 2.6 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 2.1 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.17 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

7.5 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.75 mg	0.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	37.5 mg	0.8 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	37.5 mg	0.8 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.15 mg	1.5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	150 mg	1.5 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	750 mg	7.5 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	3.75 g	7.5 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	3.75 g	15 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.075 mg	0.8 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	7.5 mcg	0.8 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	0.75 mg	0.8 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.075 mg	0.8 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	7.5 mg	0.4 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	187.5 – 375 mg	4.7 – 9.4 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	187.5 – 375 mg	0.4 – 0.8 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	0.75 mg	0.8 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.075 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	7.5 mEq	7.5 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	7.5 mEq	15 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.15 mg	1.5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	2.25 mg	1.1 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	11.25 mg	1.1 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.75 mg	0.8 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	11.25 mg	1.1 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	15 mg	0.8 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	7.5 mg	0.8 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.75 mg	0.8 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 1.8 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 2.81 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 2.81 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 2.25 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.25 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

8 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.8 mg	0.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	40 mg	0.8 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	40 mg	0.8 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.16 mg	1.6 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	160 mg	1.6 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	800 mg	8 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	4 g	8 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	4 g	16 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.08 mg	0.8 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	8 mcg	0.8 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	0.8 mg	0.8 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.08 mg	0.8 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	8 mg	0.4 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	200 – 400 mg	5 – 10 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	200 – 400 mg	0.4 – 0.8 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	0.8 mg	0.8 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.08 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	8 mEq	8 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	8 mEq	16 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.16 mg	1.6 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	2.4 mg	1.2 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	12 mg	1.2 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.8 mg	0.8 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	12 mg	1.2 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	16 mg	0.8 mL	Children ≤ 2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	8 mg	0.8 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.8 mg	0.8 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 1.92 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 3 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 3 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 2.4 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.33 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

8.5 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.85 mg	0.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	42.5 mg	0.9 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	42.5 mg	0.9 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.17 mg	1.7 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	170 mg	1.7 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	850 mg	8.5 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	4.25 g	8.5 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	4.25 g	17 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.085 mg	0.9 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	8.5 mcg	0.9 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	0.85 mg	0.9 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.085 mg	0.9 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	8.5 mg	0.4 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	212.5 – 425 mg	5.3 – 10.6 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	212.5 – 425 mg	0.4 – 0.9 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	0.85 mg	0.9 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.085 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	8.5 mEq	8.5 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	8.5 mEq	17 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.17 mg	1.7 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	2.55 mg	1.3 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	12.75 mg	1.3 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.85 mg	0.9 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	12.75 mg	1.3 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	17 mg	0.9 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	8.5 mg	0.9 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.85 mg	0.9 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 2.04 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 3.19 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 3.19 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 2.55 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.42 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

9 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.9 mg	0.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	45 mg	0.9 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	45 mg	0.9 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.18 mg	1.8 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	180 mg	1.8 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	900 mg	9 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	4.5 g	9 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	4.5 g	18 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.09 mg	0.9 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	9 mcg	0.9 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	0.9 mg	0.9 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.09 mg	0.9 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	9 mg	0.45 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	225 – 450 mg	5.6 – 11.3 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	225 – 450 mg	0.5 – 0.9 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	0.9 mg	0.9 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.09 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	9 mEq	9 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	9 mEq	18 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.18 mg	1.8 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	2.7 mg	1.4 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	13.5 mg	1.4 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.9 mg	0.9 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	13.5 mg	1.4 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	18 mg	0.9 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	9 mg	0.9 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.9 mg	0.9 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 2.16 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 3.38 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 3.38 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 2.7 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.5 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

9.5 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
<i>volumes rounded to nearest tenth place</i>				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	0.95 mg	0.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	47.5 mg	1 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	47.5 mg	1 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.19 mg	1.9 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	190 mg	1.9 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	950 mg	9.5 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	4.75 g	9.5 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	4.75 g	19 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.095 mg	1 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	9.5 mcg	1 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	0.95 mg	1 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.095 mg	1 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	9.5 mg	0.5 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	237.5 – 475 mg	5.9 – 11.9 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	237.5 – 475 mg	0.5 – 1 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	0.95 mg	1 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.095 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	9.5 mEq	9.5 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	9.5 mEq	19 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.19 mg	1.9 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	2.85 mg	1.4 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	14.25 mg	1.4 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	0.95 mg	1 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	14.25 mg	1.4 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	19 mg	1 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	9.5 mg	1 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	0.95 mg	1 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 2.28 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 3.56 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 3.56 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 2.85 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.58 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

10 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1 mg	0.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	50 mg	1 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	50 mg	1 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.2 mg	2 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	200 mg	2 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1000 mg	10 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	5 g	10 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	5 g	20 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.1 mg	1 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	10 mcg	1 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1 mg	1 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.1 mg	1 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	10 mg	0.5 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	250 – 500 mg	6.3 – 12.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	250 – 500 mg	0.5 – 1 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1 mg	1 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.1 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	10 mEq	10 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	10 mEq	20 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.2 mg	2 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	3 mg	1.5 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	15 mg	1.5 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1 mg	1 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	15 mg	1.5 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	20 mg	1 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	10 mg	1 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1 mg	1 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 2.4 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 3.75 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	1 mL dilute to 50 mL D5W	800 mcg/mL	5 mcg/kg/min = 3.75 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 3 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.67 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

11 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.1 mg	0.4 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	55 mg	1.1 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	55 mg	1.1 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.22 mg	2.2 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	220 mg	2.2 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1100 mg	11 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	5.5 g	11 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	5.5 g	22 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.11 mg	1.1 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	11 mcg	1.1 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	1.1 mg	1.1 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.11 mg	1.1 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	11 mg	0.6 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	275 – 550 mg	6.9 – 13.8 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	275 – 550 mg	0.6 – 1.1 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	1.1 mg	1.1 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.11 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	11 mEq	11 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	11 mEq	22 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.22 mg	2.2 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	3.3 mg	1.7 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	16.5 mg	1.7 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.1 mg	1.1 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	16.5 mg	1.7 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	22 mg	1.1 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	11 mg	1.1 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.1 mg	1.1 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 2.64 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 4.13 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 2.06 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 3.3 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 1.83 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

12 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.2 mg	0.4 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	60 mg	1.2 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	60 mg	1.2 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.24 mg	2.4 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	240 mg	2.4 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1200 mg	12 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	6 g	12 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	6 g	24 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.12 mg	1.2 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	12 mcg	1.2 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.2 mg	1.2 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.12 mg	1.2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	12 mg	0.6 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	300 – 600 mg	7.5 – 15 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	300 – 600 mg	0.6 – 1.2 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.2 mg	1.2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.12 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	12 mEq	12 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	12 mEq	24 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.24 mg	2.4 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	3.6 mg	1.8 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	18 mg	1.8 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.2 mg	1.2 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	18 mg	1.8 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	24 mg	1.2 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	12 mg	1.2 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.2 mg	1.2 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 2.88 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 4.5 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 2.25 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 3.6 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 2 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

13 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.3 mg	0.4 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	65 mg	1.3 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	65 mg	1.3 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.26 mg	2.6 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	260 mg	2.6 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1300 mg	13 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	6.5 g	13 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	6.5 g	26 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.13 mg	1.3 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	13 mcg	1.3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.3 mg	1.3 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.13 mg	1.3 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	13 mg	0.7 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	325 – 650 mg	8.1 – 16.3 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	325 – 650 mg	0.7 – 1.3 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.3 mg	1.3 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.13 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	13 mEq	13 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	13 mEq	26 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.26 mg	2.6 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	3.9 mg	2 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	19.5 mg	2 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.3 mg	1.3 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	19.5 mg	2 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	26 mg	1.3 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	13 mg	1.3 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.3 mg	1.3 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 3.12 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 4.88 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 2.44 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 3.9 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 2.17 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

14 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.4 mg	0.5 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	70 mg	1.4 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	70 mg	1.4 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.28 mg	2.8 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	280 mg	2.8 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1400 mg	14 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	7 g	14 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	7 g	28 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.14 mg	1.4 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	14 mcg	1.4 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.4 mg	1.4 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.14 mg	1.4 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	14 mg	0.7 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	350 – 700 mg	8.8 – 17.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	350 – 700 mg	0.7 – 1.4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.4 mg	1.4 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.14 mg	0.1 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	14 mEq	14 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	14 mEq	28 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.28 mg	2.8 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	4.2 mg	2.1 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	21 mg	2.1 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.4 mg	1.4 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	21 mg	2.1 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	2 mg/kg IV/IO	28 mg	1.4 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	14 mg	1.4 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.4 mg	1.4 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 3.36 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 5.25 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 2.63 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 4.2 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 2.33 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

15 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.5 mg	0.5 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	75 mg	1.5 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	75 mg	1.5 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.3 mg	3 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	300 mg	3 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1500 mg	15 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	7.5 g	15 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	7.5 g	30 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.15 mg	1.5 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	15 mcg	1.5 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.5 mg	1.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.15 mg	1.5 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	15 mg	0.8 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	375 – 750 mg	9.4 – 18.8 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	375 – 750 mg	0.8 – 1.5 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.5 mg	1.5 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.15 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	15 mEq	15 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	15 mEq	30 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.3 mg	3 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	4.5 mg	2.3 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	22.5 mg	2.3 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.5 mg	1.5 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	22.5 mg	2.3 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	22.5 mg	1.1 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	15 mg	1.5 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.5 mg	1.5 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 3.6 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 5.63 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 2.81 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 4.5 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 2.5 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

16 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.6 mg	0.5 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	80 mg	1.6 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	80 mg	1.6 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.32 mg	3.2 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	320 mg	3.2 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1600 mg	16 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	8 g	16 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	8 g	32 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.16 mg	1.6 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	16 mcg	1.6 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.6 mg	1.6 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.16 mg	1.6 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	16 mg	0.8 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	400 – 800 mg	10 – 20 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	400 – 800 mg	0.8 – 1.6 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.6 mg	1.6 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.16 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	16 mEq	16 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	16 mEq	32 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.32 mg	3.2 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	4.8 mg	2.4 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	24 mg	2.4 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.6 mg	1.6 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	24 mg	2.4 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	24 mg	1.2 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	16 mg	1.6 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.6 mg	1.6 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 3.84 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 6 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 3 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 4.8 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 2.67 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

17 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.7 mg	0.6 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	85 mg	1.7 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	85 mg	1.7 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.34 mg	3.4 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	340 mg	3.4 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1700 mg	17 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	8.5 g	17 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	8.5 g	34 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.17 mg	1.7 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	17 mcg	1.7 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.7 mg	1.7 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.17 mg	1.7 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	17 mg	0.9 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	425 – 850 mg	10.6 – 21.3 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	425 – 850 mg	0.9 – 1.7 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.7 mg	1.7 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.17 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	17 mEq	17 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	17 mEq	34 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.34 mg	3.4 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	5.1 mg	2.6 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	25.5 mg	2.6 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.7 mg	1.7 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	25.5 mg	2.6 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	25.5 mg	1.3 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	17 mg	1.7 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.7 mg	1.7 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 4.08 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 6.38 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 3.19 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 5.1 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 2.8 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

18 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.8 mg	0.6 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	90 mg	1.8 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	90 mg	1.8 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.36 mg	3.6 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	360 mg	3.6 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1800 mg	18 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	9 g	18 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	9 g	36 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.18 mg	1.8 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	18 mcg	1.8 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.8 mg	1.8 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.18 mg	1.8 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	18 mg	0.9 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	450 – 900 mg	11.3 – 22.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	450 – 900 mg	0.9 – 1.8 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.8 mg	1.8 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.18 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	18 mEq	18 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	18 mEq	36 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.36 mg	3.6 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	5.4 mg	2.7 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	27 mg	2.7 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.8 mg	1.8 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	27 mg	2.7 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	27 mg	1.4 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	18 mg	1.8 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.8 mg	1.8 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 4.32 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 6.75 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 3.38 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 5.4 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 3 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

19 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	1.9 mg	0.6 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	95 mg	1.9 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	95 mg	1.9 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.38 mg	3.8 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	380 mg	3.8 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	1900 mg	19 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	9.5 g	19 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	9.5 g	38 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.19 mg	1.9 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	19 mcg	1.9 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	1.9 mg	1.9 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.19 mg	1.9 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	19 mg	1 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	475 – 950 mg	11.9 – 23.8 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	475 – 950 mg	1 – 1.9 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	1.9 mg	1.9 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.19 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	19 mEq	19 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	19 mEq	38 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.38 mg	3.8 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	5.7 mg	2.9 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	28.5 mg	2.9 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	1.9 mg	1.9 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	28.5 mg	2.9 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	28.5 mg	1.4 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	19 mg	1.9 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	1.9 mg	1.9 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 4.56 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 7.13 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 3.56 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 5.7 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 3.17 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

20 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2 mg	0.7 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	100 mg	2 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	100 mg	2 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.4 mg	4 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	400 mg	4 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	10 g	20 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	10 g	40 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.2 mg	2 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	20 mcg	2 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	2 mg	2 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	20 mg	1 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	500 – 1000 mg	12.5 – 25 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	500 – 1000 mg	1 – 2 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.2 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	20 mEq	20 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	20 mEq	40 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.4 mg	4 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	6 mg	3 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	30 mg	3 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2 mg	2 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	30 mg	3 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	30 mg	1.5 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	20 mg	2 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2 mg	2 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	1.25 mL dilute to 50 mL D5W	25 mcg/mL	0.1 mcg/kg/min = 4.8 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	0.8 mL dilute to 50 mL D5W	16 mcg/mL	0.1 mcg/kg/min = 7.5 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	2 mL dilute to 50 mL D5W	1600 mcg/mL	5 mcg/kg/min = 3.75 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	1000 mcg/mL	5 mcg/kg/min = 6 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 3.33 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

21 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
<i>volumes rounded to nearest tenth place</i>				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.1 mg	0.7 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	105 mg	2.1 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	105 mg	2.1 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.42 mg	4.2 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	420 mg	4.2 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	10.5 g	21 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	10.5 g	42 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.21 mg	2.1 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	21 mcg	2.1 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.1 mg	2.1 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	21 mg	1.1 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	525 – 1050 mg	13.1 – 26.3 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	525 – 1050 mg	1.1 – 2.1 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.21 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	21 mEq	21 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	21 mEq	42 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.42 mg	4.2 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	6.3 mg	3.2 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	31.5 mg	3.2 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.1 mg	2.1 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	31.5 mg	3.2 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	31.5 mg	1.6 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	21 mg	2.1 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.1 mg	2.1 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 2.52 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 3.94 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 1.97 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 3.15 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 3.5 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

22 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.2 mg	0.7 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	110 mg	2.2 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	110 mg	2.2 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.44 mg	4.4 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	440 mg	4.4 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	11 g	22 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	11 g	44 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.22 mg	2.2 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	22 mcg	2.2 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.2 mg	2.2 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	22 mg	1.1 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	550 – 1100 mg	13.8 – 27.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	550 – 1100 mg	1.1 – 2.2 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.22 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	22 mEq	22 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	22 mEq	44 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.44 mg	4.4 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	6.6 mg	3.3 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	33 mg	3.3 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.2 mg	2.2 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	33 mg	3.3 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	33 mg	1.7 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	22 mg	2.2 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.2 mg	2.2 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 2.64 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 4.13 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.06 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 3.3 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 3.67 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

23 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.3 mg	0.8 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	115 mg	2.3 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	115 mg	2.3 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.46 mg	4.6 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	460 mg	4.6 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	11.5 g	23 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	11.5 g	46 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.23 mg	2.3 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	23 mcg	2.3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.3 mg	2.3 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	23 mg	1.2 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	575 – 1150 mg	14.4 – 28.8 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	575 – 1150 mg	1.2 – 2.3 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.23 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	23 mEq	23 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	23 mEq	46 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.46 mg	4.6 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	6.9 mg	3.5 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	34.5 mg	3.5 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.3 mg	2.3 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	34.5 mg	3.5 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	34.5 mg	1.7 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	23 mg	2.3 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.3 mg	2.3 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 2.76 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 4.31 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.16 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 3.45 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 3.83 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

24 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.4 mg	0.8 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	120 mg	2.4 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	120 mg	2.4 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.48 mg	4.8 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	480 mg	4.8 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	12 g	24 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	12 g	48 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.24 mg	2.4 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	24 mcg	2.4 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.4 mg	2.4 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	24 mg	1.2 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	600 – 1200 mg	15 – 30 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	600 – 1200 mg	1.2 – 2.4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.24 mg	0.2 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	24 mEq	24 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	24 mEq	48 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.48 mg	4.8 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	7.2 mg	3.6 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	36 mg	3.6 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.4 mg	2.4 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	36 mg	3.6 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	36 mg	1.8 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	24 mg	2.4 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.4 mg	2.4 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 2.88 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 4.5 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.25 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 3.6 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 4 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

25 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.5 mg	0.8 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	125 mg	2.5 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	125 mg	2.5 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	500 mg	5 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	12.5 g	25 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	12.5 g	50 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.25 mg	2.5 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	25 mcg	2.5 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	25 mg	1.3 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	625 – 1250 mg	15.6 – 31.3 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	625 – 1250 mg	1.3 – 2.5 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.25 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	25 mEq	25 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	25 mEq	50 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	7.5 mg	3.8 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	37.5 mg	3.8 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.5 mg	2.5 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	37.5 mg	3.8 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	37.5 mg	1.9 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	25 mg	2.5 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.5 mg	2.5 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 3 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 4.69 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.34 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 3.75 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 4.17 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

26 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
<i>volumes rounded to nearest tenth place</i>				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.6 mg	0.9 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	130 mg	2.6 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	130 mg	2.6 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	520 mg	5.2 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	13 g	26 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	13 g	52 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.26 mg	2.6 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	26 mcg	2.6 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	26 mg	1.3 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	650 – 1300 mg	16.3 – 32.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	650 – 1300 mg	1.3 – 2.6 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.26 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	26 mEq	26 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	26 mEq	52 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	7.8 mg	3.9 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	39 mg	3.9 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.6 mg	2.6 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	39 mg	3.9 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	39 mg	2 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	26 mg	2.6 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.6 mg	2.6 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 3.12 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 4.88 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.43 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 3.9 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 4.33 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

27 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.7 mg	0.9 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	135 mg	2.7 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	135 mg	2.7 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	540 mg	5.4 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	13.5 g	27 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	13.5 g	54 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.27 mg	2.7 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	27 mcg	2.7 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	27 mg	1.4 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	675 – 1350 mg	16.9 – 33.8 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	675 – 1350 mg	1.4 – 2.7 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.27 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	27 mEq	27 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	27 mEq	54 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	8.1 mg	4.1 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	40.5 mg	4.1 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.7 mg	2.7 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	40.5 mg	4.1 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	40.5 mg	2 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	27 mg	2.7 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.7 mg	2.7 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 3.24 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 5.06 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.53 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 4.05 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 4.5 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

28 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.8 mg	0.9 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	140 mg	2.8 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	140 mg	2.8 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	560 mg	5.6 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	14 g	28 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	14 g	56 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.28 mg	2.8 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	28 mcg	2.8 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	28 mg	1.4 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	700 – 1400 mg	17.5 – 35 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	700 – 1400 mg	1.4 – 2.8 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.28 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	28 mEq	28 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	28 mEq	56 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	8.4 mg	4.2 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	42 mg	4.2 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.8 mg	2.8 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	42 mg	4.2 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	42 mg	2.1 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	28 mg	2.8 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.8 mg	2.8 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 3.36 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 5.25 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.63 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 4.2 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 4.67 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

29 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	2.9 mg	1 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	145 mg	2.9 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	145 mg	2.9 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	580 mg	5.8 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	14.5 g	29 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	14.5 g	58 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.29 mg	2.9 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	29 mcg	2.9 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	29 mg	1.5 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	725 – 1450 mg	18.1 – 36.3 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	725 – 1450 mg	1.5 – 2.9 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.29 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	29 mEq	29 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	29 mEq	58 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	8.7 mg	4.4 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	43.5 mg	4.4 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	2.9 mg	2.9 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	43.5 mg	4.4 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	43.5 mg	2.2 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	29 mg	2.9 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	2.9 mg	2.9 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 3.48 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 5.44 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.72 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 4.35 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 4.83 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

30 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	3 mg	1 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	150 mg	3 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	150 mg	3 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	600 mg	6 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	15 g	30 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	15 g	60 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.3 mg	3 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	30 mg	1.5 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	750 – 1500 mg	18.8 – 37.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	750 – 1500 mg	1.5 – 3 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.3 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	30 mEq	30 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	30 mEq	60 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	9 mg	4.5 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	45 mg	4.5 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	3 mg	3 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	45 mg	4.5 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	45 mg	2.3 mL	Children ≤ 2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	30 mg	3 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	3 mg	3 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 3.6 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 5.63 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 2.81 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 4.5 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 5 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

32 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	3.2 mg	1.1 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	160 mg	3.2 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	160 mg	3.2 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	640 mg	6.4 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	16 g	32 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	16 g	64 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.32 mg	3.2 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	32 mg	1.6 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	800 – 1600 mg	20 – 40 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 3min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	800 – 1600 mg	1.6 – 3.2 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.32 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	32 mEq	32 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	32 mEq	64 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	9.6 mg	4.8 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	48 mg	4.8 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	3.2 mg	3.2 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	48 mg	4.8 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	48 mg	2.4 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	32 mg	3.2 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	3.2 mg	3.2 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 3.84 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 6 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 3 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 4.8 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 5.33 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

34 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	3.4 mg	1.1 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	170 mg	3.4 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	170 mg	3.4 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	680 mg	6.8 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	17 g	34 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	17 g	68 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.34 mg	3.4 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	34 mg	1.7 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	850 – 1700 mg	21.3 – 42.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	850 – 1700 mg	1.7 – 3.4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.34 mg	0.3 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	34 mEq	34 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	34 mEq	68 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	10.2 mg	5.1 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	51 mg	5.1 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	3.4 mg	3.4 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	51 mg	5.1 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	51 mg	2.6 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	34 mg	3.4 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	3.4 mg	3.4 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 4.08 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 6.38 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 3.19 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 5.1 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 5.67 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

36 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	3.6 mg	1.2 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	180 mg	3.6 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	180 mg	3.6 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	720 mg	7.2 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	18 g	36 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	18 g	72 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.36 mg	3.6 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	36 mg	1.8 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	900 – 1800 mg	22.5 – 45 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	900 – 1800 mg	1.8 – 3.6 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.36 mg	0.4 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	36 mEq	36 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	36 mEq	72 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	10.8 mg	5.4 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	54 mg	5.4 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	3.6 mg	3.6 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	54 mg	5.4 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	54 mg	2.7 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	36 mg	3.6 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	3.6 mg	3.6 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 4.32 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 6.75 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 3.38 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 5.4 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 6 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

38 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
<i>volumes rounded to nearest tenth place</i>				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	3.8 mg	1.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	190 mg	3.8 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	190 mg	3.8 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	760 mg	7.6 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	19 g	38 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	19 g	76 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.38 mg	3.8 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	38 mg	1.9 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	950 – 1900 mg	23.8 – 47.5 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	950 – 1900 mg	1.9 – 3.8 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.38 mg	0.4 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	38 mEq	38 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	38 mEq	76 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	11.4 mg	5.7 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	57 mg	5.7 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	3.8 mg	3.8 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	57 mg	5.7 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	57 mg	2.9 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	38 mg	3.8 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	3.8 mg	3.8 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 4.56 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 7.13 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 3.56 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 5.7 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 6.33 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

40 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	4 mg	1.3 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	200 mg	4 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	200 mg	4 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	800 mg	8 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	20 g	40 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	20 g	80 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.4 mg	4 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	40 mg	2 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	1000 – 2000 mg	25 – 50 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	1000 – 2000 mg	2 – 4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.4 mg	0.4 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	40 mEq	40 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	40 mEq	80 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	12 mg	6 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	60 mg	6 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	4 mg	4 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	60 mg	6 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	60 mg	3 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	40 mg	4 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	4 mg	4 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 4.8 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 7.5 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 3.75 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 6 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 6.67 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

45 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	4.5 mg	1.5 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	225 mg	4.5 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	225 mg	4.5 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	900 mg	9 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	22.5 g	45 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	22.5 g	90 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	0.45 mg	4.5 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	45 mg	2.3 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	1125 – 2000 mg	28.1 – 50 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	1125 – 2000 mg	2.3 – 4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.45 mg	0.5 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	45 mEq	45 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	45 mEq	90 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	13.5 mg	6.8 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	67.5 mg	6.8 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	4.5 mg	4.5 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	67.5 mg	6.8 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	67.5 mg	3.4 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	45 mg	4.5 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	4.5 mg	4.5 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 5.4 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 8.44 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 4.22 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 6.75 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 7.5 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

50 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	5 mg	1.7 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) <i>(V. Fib/pulseless VT)</i>	5 mg/kg IV/IO	250 mg	5 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) <i>(SVT, perfusing tachycardias)</i>	Loading dose: 5 mg/kg IV/IO	250 mg	5 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	1000 mg	10 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	25 g	50 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	25 g	100 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	1 mg	10 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) <i>(tracheal dose)</i>	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	50 mg	2.5 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) <i>(preferred concentration)</i>	25 – 50 mg/kg IV/IO	1250 – 2000 mg	31.3 – 50 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	1250 – 2000 mg	2.5 – 4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	<i>(Full Reversal)</i> 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	<i>(Respiratory Depression Reversal)</i> 0.01 mg/kg IV/IO/IM	0.5 mg	0.5 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	50 mEq	50 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	50 mEq	100 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	15 mg	7.5 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	75 mg	7.5 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	5 mg	5 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	75 mg	7.5 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	75 mg	3.8 mL	Children ≤ 2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	50 mg	5 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	5 mg	5 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 6 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 9.38 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 4.69 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 7.5 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 8.33 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

55 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	5.5 mg	1.8 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	275 mg	5.5 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	275 mg	5.5 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	1000 mg	10 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	25 g	50 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	25 g	100 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	1 mg	10 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	55 mg	2.8 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	1375 – 2000 mg	34.4 – 50 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	1375 – 2000 mg	2.8 – 4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.55 mg	0.6 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	50 mEq	50 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	50 mEq	100 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	16.5 mg	8.3 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	82.5 mg	8.3 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	5.5 mg	5.5 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	82.5 mg	8.3 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	82.5 mg	4.1 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	55 mg	5.5 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	5.5 mg	5.5 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 6.6 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 10.31 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 5.16 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 8.25 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 9.17 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

60 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
<i>volumes rounded to nearest tenth place</i>				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	6 mg	2 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	300 mg	6 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	300 mg	6 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	1000 mg	10 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	25 g	50 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	25 g	100 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	1 mg	10 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	60 mg	3 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	1500 – 2000 mg	37.5 – 50 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	1500 – 2000 mg	3 – 4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.6 mg	0.6 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	50 mEq	50 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	50 mEq	100 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	18 mg	9 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	90 mg	9 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	6 mg	6 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	90 mg	9 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	90 mg	4.5 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	60 mg	6 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	6 mg	6 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 7.2 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 11.25 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 5.63 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 9 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 10 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

65 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications volumes rounded to nearest tenth place				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	6 mg	2 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	300 mg	6 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	300 mg	6 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	1000 mg	10 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	25 g	50 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	25 g	100 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	1 mg	10 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	65 mg	3.3 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	1625 – 2000 mg	40.6 – 50 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	1625 – 2000 mg	3.3 – 4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.65 mg	0.7 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	50 mEq	50 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	50 mEq	100 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	19.5 mg	9.8 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	97.5 mg	9.8 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	6.5 mg	6.5 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	97.5 mg	9.8 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	97.5 mg	4.9 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	65 mg	6.5 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	6.5 mg	6.5 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 7.8 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 12.19 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 6.09 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 9.75 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 10.83 mL/hr

**must give loading dose first

Pediatric Emergency Dosage Guidelines

70 kg

Drug	Dose/kg	Dose	Volume	Comments
Resuscitation Medications				
<i>volumes rounded to nearest tenth place</i>				
Adenosine (3 mg/mL)	0.1 mg/kg IV/IO	6 mg	2 mL	Double the dose for 2 nd dose Max 1 st dose 6 mg, Max 2 nd dose 12 mg 3-way stopcock - Rapid bolus followed by 5 mL NS flush
Amiodarone (50 mg/mL) (V. Fib/pulseless VT)	5 mg/kg IV/IO	300 mg	6 mL	Rapid bolus (max 300 mg/dose) – no dilution May repeat twice up to maximum total LOADING dose of 15 mg/kg/day
Amiodarone (50 mg/mL) (SVT, perfusing tachycardias)	Loading dose: 5 mg/kg IV/IO	300 mg	6 mL	Infusion (max 300 mg/dose) – dilute May repeat twice up to maximum total LOADING dose of 15 mg/kg/day Dilute with D5W to a final concentration of ≤ 2 mg/mL Infuse over 20-60 min
Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	Minimum dose: 0.1 mg; Max dose: 0.5 mg **ETT 0.04 to 0.06 mg/kg/dose
Calcium Chloride 10% (100 mg/mL)	20 mg/kg IV/IO	1000 mg	10 mL	Peripheral: Dilute with NS/D5W to a final concentration of 25 mg/mL (slow IVP); Max dose: 1 g
Calcium Gluconate 10% (100 mg/mL)	100 mg/kg IV/IO	2000 mg	20 mL	Non-emergent use, less extravasation Peripheral: Dilute with NS/D5W to final concentration of 25 mg/mL (slow IVP); Max dose: 2 g
Dextrose 50% (0.5 g/mL)	0.5 g/kg IV/IO	25 g	50 mL	Dilute 1:1 with sterile water to a final concentration of D25%; Max dose: 25 g of 25% in large vein
Dextrose 25% (0.25 g/mL)	0.5 g/kg IV/IO	25 g	100 mL	Preferred concentration in infants and children
Epinephrine (0.1 mg/mL) CODE DOSE	0.01 mg/kg IV/IO	1 mg	10 mL	No pulse , every 3-5 min; Max dose: 1 mg
Epinephrine (10 mcg/mL) PUSH DOSE	1 mcg/kg IV/IO	30 mcg	3 mL	Hemodynamically unstable with pulses ; Max dose: 30 mcg
Epinephrine (1 mg/mL) (tracheal dose)	0.1 mg/kg ETT	2.5 mg	2.5 mL	Flush with 5 mL NS, 5 manual ventilations; Max dose: 2.5 mg
Flumazenil (0.1 mg/mL)	0.01 mg/kg IV/IO	0.2 mg	2 mL	Max dose: 0.2 mg (max total daily dose of 1 mg)
Lidocaine (20 mg/mL)	1 mg/kg IV/IO	70 mg	3.5 mL	May administer 2 nd bolus **ETT 2 to 3 mg/kg
Magnesium Sulfate (40 mg/mL) (preferred concentration)	25 – 50 mg/kg IV/IO	1750 – 2000 mg	43.8 – 50 mL	Draw up from premix bag (40 mg/mL) Max dose: 2 g Emergent hypomag: slowly over 15 – 20 min Pulseless VT w/ Tdp: bolus VT pulse w/ Tdp: 10 – 20 min infusion Asthma exacerbation: 15 to 30 min infusion
Magnesium Sulfate 50 % (500 mg/mL)	25 – 50 mg/kg IV/IO	1750 – 2000 mg	3.5 – 4 mL	Dilute with NS/D5W to a final concentration of ≤ 200 mg/mL; Max dose: 2 g
Naloxone (1 mg/mL)	(Full Reversal) 0.1 mg/kg IV/IO/IM	2 mg	2 mL	May repeat every 2 to 3 min Max dose: 2 mg
	(Respiratory Depression Reversal) 0.01 mg/kg IV/IO/IM	0.7 mg	0.7 mL	Reversal from therapeutic overdose Dosing range 0.001 to 0.02 mg/kg/dose
Sodium Bicarbonate 8.4% (1 mEq/mL)	1 mEq/kg IV/IO	50 mEq	50 mL	Dilute 1:1 with sterile water to a final concentration of 0.5 mEq/mL for infants/children < 2 y/o
Sodium Bicarbonate 4.2% (0.5 mEq/mL)	1 mEq/kg IV/IO	50 mEq	100 mL	Preferred concentration in infants/children < 2 y/o

Rapid Sequence Intubation

Atropine (0.1 mg/mL)	0.02 mg/kg IV/IO	0.5 mg	5 mL	No min dose for premedication; Max dose: 0.5 mg
Etomidate (2 mg/mL)	0.3 mg/kg IV/IO	20 mg	10 mL	Max dose: 20 mg
Ketamine (10 mg/mL)	1.5 mg/kg IV/IO	105 mg	10.5 mL	Dosing range of 1 – 2 mg/kg
Midazolam (1 mg/mL)	0.1 mg/kg IV/IO	7 mg	7 mL	Max dose: 10 mg (5 mg infants)
Propofol (10 mg/mL)	1.5 mg/kg IV/IO	105 mg	10.5 mL	Dosing range of 1 – 2 mg/kg
Succinylcholine (20 mg/mL)	1.5 mg/kg IV/IO	105 mg	5.3 mL	Children ≤2 yrs: 2 mg/kg, > 2 yrs: 1.5 mg/kg
Rocuronium (10 mg/mL)	1 mg/kg IV/IO	70 mg	7 mL	Dosing range of 0.6 – 1.2 mg/kg
Vecuronium (1 mg/mL)	0.1 mg/kg IV/IO	7 mg	7 mL	Reconstitute 10 mg vial w/ 10 mL (SWFI or NS)

Continuous Infusions

Drug	Dosage Range	Preparation	Final Concentration	Initiate at ____ mcg/kg/min
Epinephrine (1 mg/mL)	0.01 – 1 mcg/kg/min	2.5 mL dilute to 50 mL D5W	50 mcg/mL	0.1 mcg/kg/min = 8.4 mL/hr
Norepinephrine (1 mg/mL)	0.02 – 1 mcg/kg/min	1.6 mL dilute to 50 mL D5W	32 mcg/mL	0.1 mcg/kg/min = 13.13 mL/hr
Dopamine (40 mg/mL)	1 – 20 mcg/kg/min	4 mL dilute to 50 mL D5W	3200 mcg/mL	5 mcg/kg/min = 6.56 mL/hr
Dobutamine (12.5 mg/mL)	2 – 20 mcg/kg/min	8 mL dilute to 50 mL D5W	2000 mcg/mL	5 mcg/kg/min = 10.5 mL/hr
Amiodarone (50 mg/mL)	5 – 15 mcg/kg/min	1.8 mL dilute to 50 mL D5W	1.8 mg/mL	5 mcg/kg/min = 11.67 mL/hr

**must give loading dose first

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